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Soap

New Odors ... *Soap manufacturers planning new and enticing products to blossom with the flowers of spring will find that Givaudan offers an almost unlimited variety of new and interesting odors for soaps and cosmetics of every description ... and a full measure of expert assistance in utilizing them to achieve the most successful and economical results.*

Givaudan DELAWANNA, INC., 80 Fifth Avenue, New York, N.Y.

...nd Sanitary Chemicals

A guide to better Soap-making for 1939

DIAMOND ALKALI CO.

58% LIGHT SODA ASH

58% LIGHT FLUFFY SODA ASH

DIAMOND SODA CRYSTALS

76% CAUSTIC SODA (SOLID & FLAKE)

LIQUID CAUSTIC SODA

STANDARD SILICATE DIV.

SILICATE OF SODA, LIQUID

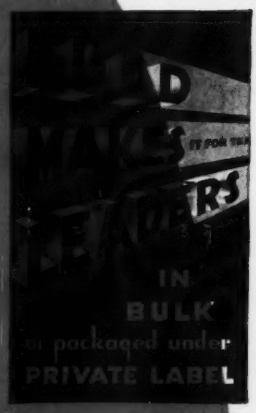
SILICATE OF SODA, GLASS

SODIUM METASILICATE

SILICATED ALKALIES

S-1-39

DIAMOND ALKALI COMPANY, PITTSBURGH & EVERYWHERE



New SLIPNOTIC S. P. WAXES

At last a self-polishing wax that whips the slip problem, and clings to floors for luster and added wear. A new series of waxes containing Fuld's Exclusive Plastex, which makes them positively Slipnotic! Write for complete description and prices.

PINE OIL DISINFECTANTS

True to the pine—true to the dealer. Fuld's pure Pine Oil Disinfectants major in germ-killing protection when used as directed, and they touch the peak of dealer satisfaction, because you sell the assurance of Fuld's batch-by-batch tests for quality and strength.

BREVITEE METAL POLISH

A now famous polishing short-cut that puts more hours in the day, more action in the can, and more orders on the pad. Brevitee strips off the tarnish and whirls through a demonstration that ends with a signature on the dotted line.

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These featured leaders take the rough edge off the selling and house-keeping. Carry the easy-acting BOWL CLEANER that made sparkling toilet bowls an all-American characteristic.

FULD'S DRAIN CLEANERS (hot or cold water types) open and keep open constantly the public's first line of sanitary maintenance, and they keep open for dealers a constant demand that no substitute quite satisfies.

FOR YOUR NAME'S SAKE!

Our constant laboratory investigation of every new requirement of sanitary supply users pays both you and us.

It results in daring product novelties which keep "the leaders" leading under their *own name.*

- DEODORANT BLOCKS
- LIQUID DEODORANTS
- LIQUID CLEANERS
- LIQUID SOAPS
- OIL SOAPS
- INSECTICIDES
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- SPECIAL CLEANERS
- SOAP DISPENSERS
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Bringing Down the Pheasant with the Help of Soda Ash

Sounds far fetched; but wait! It takes the finest steel to make guns that shoot straight and blades that stay sharp. Soda ash is used in the manufacture of quality steel. By reducing the sulphur content and by exercising certain other refining properties, sodium carbonate (soda ash) makes cast iron purer and closer grained. Hence steel made from iron thus treated is finer and possesses greater ductility.

COLUMBIA supplies the steel industry with Hennig Purifier; small briquettes of specially compounded soda ash which perform their humble but important part in foundry, blast furnace, open hearth and Bessemer mills to give the world cleaner, purer steel and iron.

And in the other fields of endeavor in which COLUMBIA Soda Ash plays its part, purity is ever and eternally the watchword. So, too, with COLUMBIA Caustic Soda, Liquid Chlorine, Sodium Bicarbonate, Calcium Chloride and Modified Sodas — whether the shipment be large or small, the quality is always high and uniform. In fact, purity of product, cleanliness of containers, and the convenience of customers are the open secret of COLUMBIA's ever-widening distribution.

COLUMBIA

SODA ASH • CAUSTIC SODA • SODIUM BICARBONATE • • •
MODIFIED SODAS • LIQUID CHLORINE • CALCIUM CHLORIDE

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Soap and Sanitary Chemicals

Volume XV
Number 2

FEBRUARY
1939

MEMBER AUDIT BUREAU OF CIRCULATIONS

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Is A Special Swelling Colloid Which Offers Unusual Advantages As An Admixture To All Kinds Of Soap

• It makes possible a considerable reduction of the fatty acid content without impairing the lathering effect and cleansing properties. Its solutions possess unlimited durability and a very marked lathering and emulsifying effect. They can be regarded, therefore, as genuine detergents.

Soaps made with Tylose have a better appearance, are smooth and pleasant to handle, keep their shape and freshness during drying, and, even after long storage, can be counted on to produce an abundant and strikingly mild lather.

Tylose may be used with excellent results in

FINE SOAPS—Toilet Soaps, Shaving Soaps, Soap Flakes.

HARD SOAPS—Household Soaps, Washing Soaps.

SOFT SOAPS—Transparent, Silver and Mottled Soaps.

Write, stating your special requirements, and we will send you further information about Tylose.

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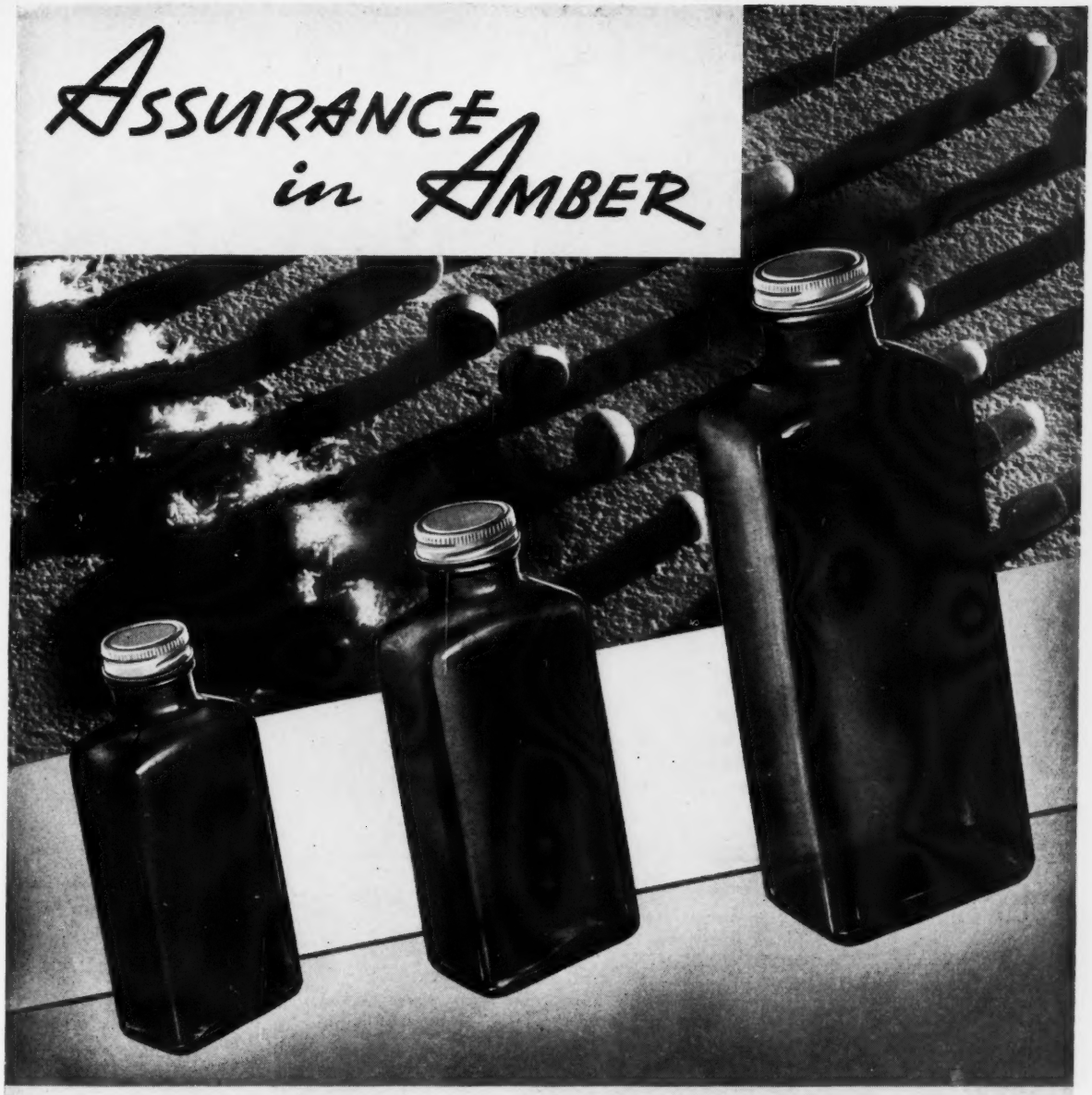
ASSURANCE in AMBER



ASSURANCE means confidence... confidence in dependability and uniformity... what every business man seeks in the things he buys. In the containers that hold your products—as for example the amber *Blakes* for pills, tablets, capsules, powders, etc.—you can have complete assurance of unvarying excellence, of brilliant, clean amber glass, of sturdiness and of accurate finish—by depending upon Anchor Hocking as your source of supply. Anchor Hocking Blakes are available in the widest range of sizes, 27 in all, from 1/6 to 32 oz. When next you need to order glassware, inquire of Anchor Hocking... and assure yourself of Anchor Hocking extra quality at no premium in cost. ANCHOR HOCKING GLASS CORPORATION, Lancaster, Ohio. Closure Division: Anchor Cap & Closure Corporation, Long Island City, New York, and Toronto, Canada.

ANCHOR HOCKING GLASS CAPS

-an unbeatable combination

1 EASY STEP

ADDS LASTING PERFUME . . . . . AND COLOR TO PARADICHLORBENZENE AND NAPHTHALENE

COLOROMES

first introduced by Felton Chemical Company, are making phenomenal contributions in increased sales to a large number of manufacturers of deodorant blocks and crystals.

They economically add lasting fragrance and attractive color in one easy step and give your products the SALES APPEAL that results in ready consumer acceptance!

Coloromes are available in a large assortment of popular perfumes and colors, as well as perfumes without color, if desired!

Write for samples now!

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Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME OILS, ARTIFICIAL FLOWER AND FLAVOR OILS.
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YOU have only to note the improvements incorporated in Anchor Improved C. T. Caps—specific structural features—to realize that these are unique caps of their type. Due to these improvements, Anchor's C. T. Caps are definitely and provably superior . . . on all counts.

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The abrupt start of the thread in these caps speeds sealing production—it "finds" the glass thread immediately, avoids cross threading. Greater clearance reduces friction, eliminates wedging and allows the caps to spin on easily. Straight sides facilitate gripping, particularly with machine chucks.

Improved SEALING

The undergrip compels a downward sealing pressure—pressure that is equalized around the entire circumference because of the matching of the threads [cap thread with glass thread]. Tendencies for caps to tilt or threads to bind are avoided.

Improved REMOVAL

Greater flexibility in the caps resulting from scientific design and consequent decreased working of the metal, plus lessened friction and absence of interference, makes removal easy—a happy result that is rendered even easier by the good comfortable gripping surface provided.

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Straight cylindrical side walls, fine knurling and a fully closed and neatly rolled wire edge all contribute to making Anchor Improved C. T. Caps the best looking closures of their kind. Write for samples to examine and compare. ANCHOR CAP & CLOSURE CORPORATION, Long Island City, New York, and Toronto, Canada; *Closure Division of Anchor Hocking Glass Corporation.*

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Ask us about the latest developments in PERFUME ODORS and DEODORANTS for use in the following:

AIR CONDITIONING
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***IMPORTANT** — Please Note — Send us a sample of your product unperfumed, state type odor desired, your cost limitation, and we will return it to you deodorized, or perfumed.

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15 East 30th Street, New York City — Factory: Springdale, Conn.

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Build Business on *Quality* FLOOR WAXES!

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As a supply jobber, one of your greatest assets is a reputation for selling PRODUCTS OF QUALITY. Davies-Young Floor Waxes, Soaps and Sanitary Products are favorably known to your customers—known to be always "as represented"—effective, safe, economical. You can build steadily increasing business on the satisfaction of every consumer with "Beamax" (Dries to a Lustre) Liquid Wax—or with its companion product, "Cirene."

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"BEAMAX" LIQUID WAX

Dries in 20 minutes or less to a hard, lustrous, beautiful finish. No polishing required. For all types of floors. Perfect emulsion. Will not settle out.

"CIRENE" LIQUID WAX

Dries in 10 to 20 minutes, to produce a hard, lustrous finish which is impervious to moisture within a few minutes after drying. For all types of floors.

THE DAVIES-YOUNG SOAP CO.
DAYTON, OHIO

Manufacturers of Soaps, Floor Waxes, Polishes, Cleansers, Disinfectants, Deodorants, Insecticides.

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The Davies-Young Soap Co.
Dayton, Ohio.
Please send us samples and prices of
☐ "BEAMAX" Liquid Wax ☐ "CIRENE" Liquid Wax

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Cyclamal

The Accepted Basis
For Floral Perfumes
(Lily of the Valley, Lilac, etc.)

A single chemical having the Properties most desired by the perfumer.

Great Strength

(5 times stronger than Hydroxy Citronellal with which it blends well.)
Result: Economy.

Persistence in Odor

Result: The assurance that your product will reach the consumer properly perfumed and that your expenditure for perfume has not been wasted.

Freedom from Irritation

Result: Permitting its use in Cosmetics as well as Soap and Perfumes.

Freedom from Discoloration

Result: No worries about returned goods from this cause.

AGFA Cyclamal is of 100% Purity.

Samples upon request.

Agfa

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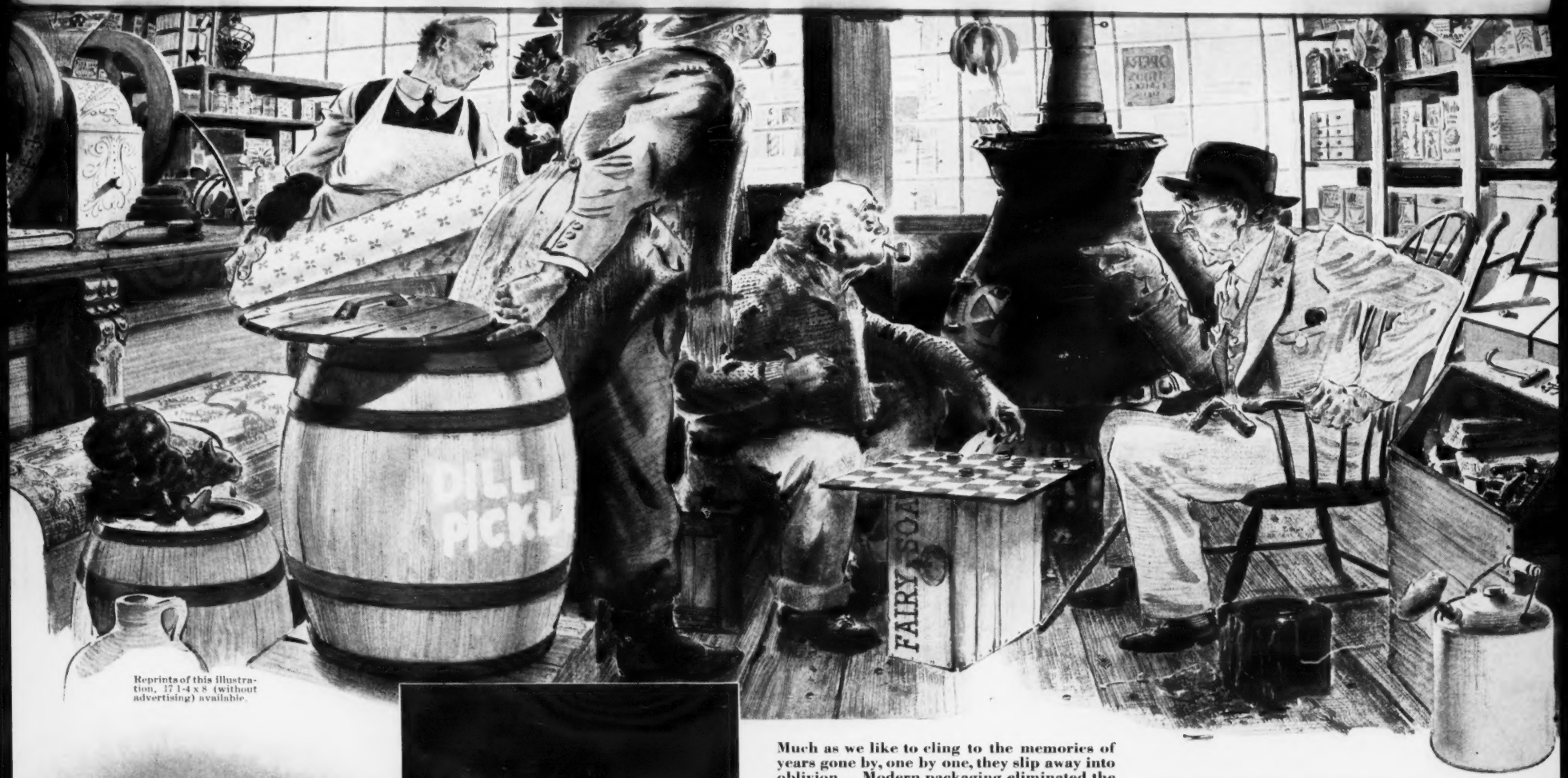

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WHAT HAPPENED TO THE PICKLE BARREL?

Much as we like to cling to the memories of years gone by, one by one, they slip away into oblivion... Modern packaging eliminated the pickle barrel, the cracker barrel... and other historic landmarks found in every type of retail store at the turn of the century.

And just as old-fashioned means of marketing have disappeared—so have slow and inefficient methods of manufacturing been supplanted by modern methods and machinery—production costs have been reduced, the quality average raised.

But change is still with us. Public fancy still is fickle, and sales battles are being won because consumers are attracted to newness and novelty . . . brightness and beauty in a sales package.

Trademarked merchandise is your business and *Sales*packages of Glass is ours. That's why we believe it will pay you to combine your experience with our specialized knowledge of modern packaging... Any O-I representative will arrange to put your problem before our Packaging Research Division. Owens-Illinois Glass Company, Toledo, Ohio.

OWENS-ILLINOIS

"FIRST IN GLASS"

● *They breathe quality and distinction...yet these three handsome containers—the Classic wave set, the Vogue lotion and the Sunburst brilliantine—are each from lines of STOCK MOLD items. When a smart, modern*

HOW UNIQUE "Peptizing" Action OF TETRA SODIUM PYROPHOSPHATE

Assures a Cleaner, Sweeter-Smelling Wash

Outstanding among the many advantages contributed by TETRA SODIUM PYROPHOSPHATE as a soap builder is its unique "peptizing" action which imparts to particles of solid matter a tendency to repell one another. Not only is this effect imparted to the solids precipitated through water softening, but to particles of dirt, grease, and other soil present as well.

Instead of growing to such a size that they become enmeshed in the fabric being washed, these "peptized" particles remain finely divided and uniformly suspended throughout the washing solution. As a result, clothes are whiter, rinse better, and smell sweeter when dry.

Anticipating the demand for tetra sodium pyrophosphate as a soap builder, Victor developed an improved manufacturing technique . . . built the largest plant of its kind in existence today . . . was first to meet the demand for a product of uniformly high quality.

VICTOR CHEMICAL WORKS

141 W. JACKSON BOULEVARD, CHICAGO, ILLINOIS

Plants: Nashville, Tenn.; Mt. Pleasant, Tenn; Chicago Heights, Ill. • Offices: New York, N. Y.; Kansas City, Mo.; St. Louis, Mo.; Greensboro, N. C.

VICTO

PEPTIZING ACTION DEMONSTRATED BY SIMPLE TEST

Immediately After Mixing

After Standing 20 Minutes

After Standing 2 Hours

Look at the difference shown by this simple test! The graduate on the right in each panel contains hard water to which has been added straight tri-sodium phosphate as a softening agent. The one on the left contains hard water to which has been added a mixture of 25% tetra sodium pyrophosphate and 75% trisodium phosphate. Even immediately after mixing, the difference in precipitates is noticeable . . . a difference that becomes more pronounced as time passes. After standing for two hours the tiny particles "peptized" by tetra sodium pyrophosphate still remain suspended in the solution . . . while those precipitated by straight tri-sodium phosphate have grown to such a size that they have settled on the bottom of the graduate.

HEADQUARTERS FOR . . .

pH Phosphates

BURNING THE CANDLE AT BOTH ENDS . . .

. . . is a pretty sure way of burning it out in a big hurry!

The man who burns the candle at both ends has a hot time while it lasts . . . but the trouble is, it never lasts very long. Just as many manufacturers who enjoy an unusual stimulation of business at the start . . . by selling to both distributor and consumer at the same time . . . find all too soon that their high-stepping sales volume is just as short-lived.

That's why Bright Beauty Waxes are sold through distributors *only** . . . never direct to the consuming trade. It is our unalterable policy never to compete with our jobbers.

However, we're fully aware that today's market is still a highly competitive one, for the floor treatment business is constantly growing. Every day of the week, your salesmen are up against the aggressive sales talk of a dozen or more competing wax salesmen. How they meet that competition decides just what share of the available business *your* company will get.

Talking the Consumer's Language

Naturally, you want to send your men out with *facts* . . . about solid content, water resistance, slipperiness . . . concrete facts that can meet competitive selling talk point for point. (We will gladly send you such information, obtained from more than 40 years of practical laboratory research and experiment . . . boiled down into useable form.)

But more important! . . . equip your men to meet this competition with a product that speaks for itself where it counts most—*on the floor*. That's talking the consumer's own language . . . for the average buyer today is more interested in how his wax is going to look on his particular floor than all the talk in the world. Have your salesmen give a demonstration with Candy's Bright Beauty Self-Polishing Wax.

Every time your men can put Bright Beauty on a prospect's floor . . . alongside a wax that has already proven "eminently satisfactory" . . . you've practically got an order. For here is a self-polishing wax that embodies all the ease of application, water resistance, beauty and durability demanded of a truly dependable floor treatment . . . one upon which you can safely rest your reputation for highest grade products. These may sound like pretty broad statements to make, but we'll gladly prove them to your satisfaction any time you give us an opportunity.

Meets Competition At a Profit

Bright Beauty Waxes are competitively priced . . . yet can be sold so as to allow you a liberal margin of profit. Made in several grades that vary only in solid content. Packed in attractive containers under your own brand name. Beautiful three-color, plate-style labels are available on any grade.

May we send you a liberal experimental sample of Candy's Bright Beauty Wax, with further details? No obligation.

*Except for experimental accounts in Chicago, essential for research.

Al Candy, Jr.

CANDY & CO., INC. WAX SPECIALISTS FOR OVER 40 YEARS 2515 W. 35TH ST., CHICAGO

Manufacturers of Prepared Paste Wax, Spirit Liquid Prepared Waxes, Powdered Dance Floor Wax, Concentrated Cream Furniture Polish, Paste Cleaners, Rug Shampoo.

From the

SALES

ANGLE

CONSIDER your soap from the sales angle. *First* the package must attract your prospect. Then perfume plays its important part. In selecting soaps, the first move of the consumer is to *smell* the product. Perfume is a part of the package, a vital part of your sales campaign. Consider it in this light and select a perfume that will speak "QUALITY" for your product.

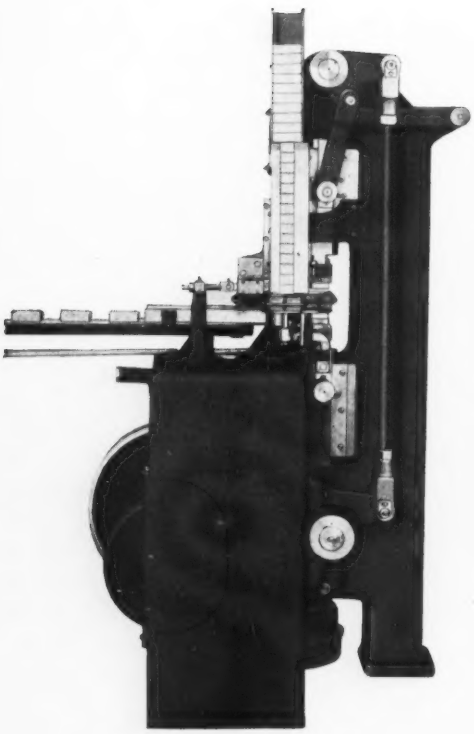
VAN AMERINGEN-HAEBLER, INC.

315 Fourth Ave., New York City

. . . modernize and economize

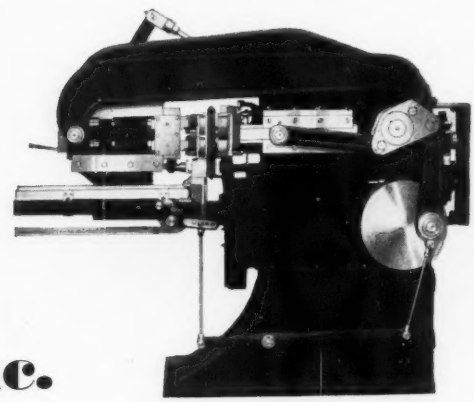
with

JONES SOAP PRESSES



Type ET Toilet Soap Press

Discontinue the costly operation of obsolete soap presses . . . they are expensive to run . . . they take toll in badly pressed soap, and marred cakes . . . replace your old presses with JONES New Toggle Operated PRESSES . . . obtain fine looking, well-pressed cakes of soap . . . lower pressing costs . . . increased output . . . silent, vibrationless operation . . . modernize and economize with JONES New Toggle Soap PRESSES.



Type K Laundry Soap Press

R. A. JONES & CO., Inc.

P. O. Box 485 **Cincinnati, Ohio**

The Standardized *Constant Motion Cartoner* packages, bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds and inserts direction sheets and corrugated board liners with the loads.

As the Editor sees it..

AS WAS anticipated, the deluge of state legislation has started. With some forty state legislatures scheduled to meet during 1939, and with the Federal Food, Drug & Cosmetic Act going into effect next June, it is not at all surprising that state laws designed to supplement the new federal law should come to the fore in considerable numbers. Thus far, we have had reports on a dozen or so bills introduced into state legislatures, or about to be introduced, which may have a direct bearing on the labeling and marketing of soaps and certain other household products. The bills, as far as we are able to find out, are in no case very far advanced as yet and details have not been secured. They are reported to cover labeling, registration, and the like. Some of them are reported to go considerably further than the federal act.

As a whole, the legislative situation appears to be clothed in fog of uncertainty and it will require a little time to determine the exact significance of many of the pending bills. In the mean time, leading trade associations are watching the situation closely, prepared to act at the proper time in order to safeguard the interests of their industries.

IN considering the newest budget for the City of New York, we note with keen interest that the public servants who slave at this business of budget-making are once again toying with the idea of supplying free soap and towels in the public schools. But nothing so rash as supplying all the schools in the city with free soap at one time is being considered. First, the budget calls for an appropriation of twenty-five thousand dollars to try out this "revolutionary scheme" in a few schools in order to make sure that it does not explode, back-fire, or induce un-American activities. Second, if it works in a few trial schools, it may later be expanded to others in the city educational system, —we hope, but don't believe that it will. For a number of years, this free soap appropriation has been included in the city budget, and each time, it has been eliminated, so we hold out very little hope for its retention in the current budget. Surely, the dear old public must appreciate that those on the public payroll in New York cannot be bothered with such fads and nonsense as free soap at a time like this. What difference does it make if a number of more progressive cities of the country have been supplying free soap and towels for years?

IN horse-racing, it is not uncommon for a steed running unnoticed and unheralded far behind the leaders to rush to the front in the last few hundred yards and gallop across the line a winner. At some tracks, this happens with a fair degree of frequency, and those who are smart enough or dumb enough to wager their hard-earned cash on such horses profit accordingly. Now this is all more or less expected at race-tracks. It is likewise occasionally true among the bartenders and barbers who buy sweepstakes tickets. They sort of brace their feet mentally against the possible shock which might accompany the sudden acquisition of great wealth and prominence.

But when a commercial product, a perfectly innocent chemical compound, rushes into a position of prominence almost over night, figuratively speaking, it is quite unexpected to say the least. Word goes the rounds and before we know it, this heretofore little-heard-of product has rushed into prominence and is the cynosure of all eyes. Evidently, this is just about what has happened to sodium pyrophosphate. It has crashed into the

soap and detergent picture like an avalanche. Those soapers who a year or two or three ago mentioned it only in whispers for fear their competitors might hear about it,—and who told their suppliers that if they revealed the secret, they need never come back for another order,—well, these same manufacturers are now shouting about it from the housetops. It is the new note in their advertising symphonies. It has become the answer to the soap maker's prayer. It has stolen the center of the stage and the spotlight,—and it has also stolen much of the thunder of its older brother, trisodium phosphate. It has given soap a new outlook in life, and a new foundation on which to fortify against the potential advance of the newer synthetic detergents.

And to think that sodium pyrophosphate is literally as old as the hills from the chemical standpoint. But as a commercial detergent item with remarkable properties, it is still quite new to the rank and file of the soap industry. If it were "unnoticed and unheralded" a year ago, it has certainly made up for lost time in its "rush to the front" during the past four or five months.

HEREAFTER when we write about things that happened twenty or thirty years ago in the soap industry, we are going to be sure of all the details. It seems that every time we get our wires crossed about something, there are old-timers with keen memories who discover our mistake. Usually, we keep these errors quiet and change the subject, and wish that these fellows who remember everything would forget once in a while. But inasmuch as our latest error has been quietly deposited on our front doorstep by several readers, we feel that a correction is in order.

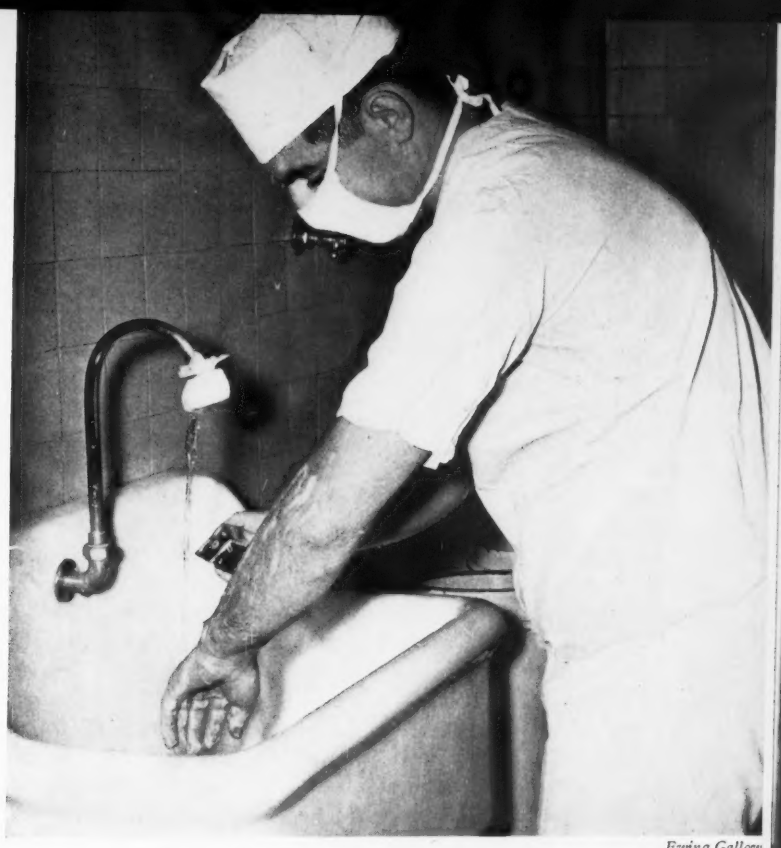
In discussing the demise of the once-famous soap product, "Pearline," in the last issue of *Soap*, we inadvertently stated that "Mr. Pyle's Pearline whale with its white spot was the motif of prolific advertising." If we had only left out the whale and its white spot, all would have been well, but we didn't—and thereby hangs the tale. As was pointed out to us in two letters and a long-distance phone call, the "whale with the white spot" was not the trade mark for "Pearline" at all. It was and still is, the mark of "Soapine," a product which is manufactured in the vicinity of Boston and is very much alive. Imagine our chagrin! Here we pinned the trade-mark of a very-much-alive product onto another product which has been dead these many years.

So sometimes, it doesn't pay to try to be too funny unless you know what you're being funny about. In this case, the trick cigar exploded right in our own face. Apologies to "Soapine"! And just so you can see what the "whale with the white spot" looks like today, we are publishing a picture of it elsewhere in this issue.

SINCE the passage of the new Food, Drug and Cosmetic Act early last year, we have upon several occasions announced to those in the trade who are not familiar with this law that ordinary toilet and laundry soaps are *specifically* exempted from its provisions. To bring this about, the Association of American Soap & Glycerine Producers, aided individually by a number of soap manufacturers, worked hard and long on each and every new food and drug bill as it was brought up in Congress, including the bill which finally became law. Unquestionably as a result of their efforts, soaps have been excluded from the provisions of the new law which becomes generally effective next June.

Now, as has been stated before, we will state once again for the benefit of those who did not read,—regular, ordinary, everyday soaps are exempt. If, however, any claims of a medicinal or cosmetic nature are made for any soap, that is if it claims to have any medicinal or beautifying virtues, or is held out for any purpose except for the plain cleansing of the skin or other object on which it is used,—it then does come under the provisions of the law. Those who have any doubts, should note this distinction.

We have heard rumors that in the enforcement of this law, the enforcement agency may plan to make it apply to ordinary soaps. Of course, this is possible, but not probable. Enforcement agents have upon occasion tried to make laws apply to everything from soup to nuts where they could get away with it,—but if tried in the case of soap, we do not believe that they could get away with it. At any rate, as things now stand, soap does *not* come under the new Food, Drug and Cosmetic Law.



Ewing Gallow

Trade Comments on U. S. P. Soft Soap

IN connection with the proposed revision of the specifications for U.S.P. Soft Soap by the Revision Committee of the U. S. Pharmacopoeia, comments have been received from two leading manufacturers of potash soaps, discussing the question and offering definite suggestions. These suggestions have also been passed along to the Revision Committee by the manufacturers. Those who have expressed their views are Edward Schwartz of James Good, Inc., Philadelphia, and Herbert Kranich of the Kranich Soap Co., Brooklyn. Mr. Schwartz commented as follows:

"On reading your editorial on Soft Soap, U.S.P., in the December issue of *Soap and Sanitary Chemicals*, one takes the impression that Dr. Davy's report and recommendations are offered by the Pharmacopoeia Committee of Revision as a contemplated change in the formula of Soft Soap, U.S.P.

As we understand the question, the present formula for Soft Soap, U.S.P., is a good one, but objections have always been raised by users as to the tendency of the soap to develop an unpleasant odor; in spite of the fact that a good Soft Soap, U.S.P. should not have a seriously objectionable odor unless it has been stored for an unusual length of time. There are also complaints from manufacturers whose principal objection, it seems to us, is based on the desire to change the formula to cover their own private idea of Soft Soap, U.S.P. The Committee of Revision takes every objection into consideration, but before any changes are to be made, they decided, as according to their usual careful procedure, to have a study made of the relative detergent values of soaps made from available materials. This task was undertaken by Dr. Edward D. Davy, a member of the Committee, and his report, which you published, is the first of probably a number of studies on the subject.

While writing on this subject, we feel it is opportune to emphasize the significance of the term 'U.S.P.' Any item marked 'U.S.P.' must conform to the standards as set up by the 'Pharmacopoeia of the United States' which has recognition in the law. The Pharmacopoeia is a carefully edited publication with the object 'to provide standards for drugs and medicines of therapeutic usefulness or pharmaceutic necessity, sufficiently used in medical practice within the United States or its possessions; to lay down the tests for the identity, quality and purity of these; to insure, so far as practicable, uniformity in physical properties and active constituents.

'It is recommended that the Committee of Revision be authorized to admit into the Pharmacopoeia a carefully selected list of medicinal

substances of known origin, but no substance or combination of substances shall be introduced if the composition or mode of manufacture thereof be kept secret'. From this excerpt from the Pharmacopoeia you can readily see that any viewpoint taken by the Committee of Revision is very conscientious.

Your editorial fails to stress the *therapeutic value* of Soft Soap, U.S.P., and that this important factor will no doubt carry great weight with the Committee. That Soft Soap, U.S.P., does have medicinal or therapeutic value can be confirmed by referring to the 'United States Dispensatory' or 'Merck's Index'. Our fellow manufacturers, (and there are quite a few who look upon Soft Soap, U.S.P., as only a *soap*), should realize this point and cooperate by adhering to the specifications of the U.S.P. item. As a matter of fact it is obligatory by law to adhere to them, and even the term 'Soft Soap' indicates the official item unless a qualifying statement is made on the label.

As manufacturers of this item we find the use of linseed oil acceptable. Cottonseed oil was introduced into the Ninth Revision of the Pharmacopoeia replacing linseed oil. In the Tenth Revision linseed oil was reintroduced because of the consensus of *medical* opinion. As manufacturers, we feel we cannot offer any information as to the therapeutic value of any soap or oil, and feel it is our duty to make the item strictly as specified under the monograph in the Pharmacopoeia."

Suggests Peanut Oil Base

MR. KRANICH offered the following comments: "The production of soft soap to comply with the specifications of the U. S. Pharmacopoeia is relatively simple. To the manufacturer, its production does not entail mechanical or technical difficulties if he has in his organization skilled soap makers and experienced technicians. At times, when the formula was changed, certain modifications were necessary, principally in finishing the product, but beyond this and other slight technical adjustments production of high grade soft soap depends upon using the best of raw materials, cleanliness of apparatus, careful analysis of the product, and proper packaging, and is a relatively simple procedure of the saponification of a vegetable oil with an alkaline hydroxide. This will hold true for any new formula devised. In the past, linseed oil, soya bean oil, corn oil and sundry fatty acids of these oils, etc. and various combinations of fatty acids and oils have all been used in the soap kettle. Sometimes alcohol or glycerine are used, and also sometimes rusty solutions of caustic potash and soda, dirty iron kettles and crutchers are employed in the production of a medicinal soap which eventually is to be used in some form or other on the human body.

The vegetable oils recommended for the production of Soft Soap, U.S.P. were evidently specified due to long established use and custom. Linseed oil is a decidedly unpleasant smelling product and when converted into soap retains this original disagreeable odor, changing on standing to a fishy smell. (Many a customer has accused the soap maker of actually using fish oil.) The consistency and stability of a linseed oil soap varies considerably according to the season of the year. Age, temperature and type of container in which it is packed play most important parts in the appearance and stability of the finished soap.

Linseed oil is not a difficult oil to substitute in the soap kettle, but many and varied are the blends, mixtures, etc. when the price of linseed oil is higher than soya bean, corn oil, sesame oil, perilla, etc. (Not omitting imported or domestic linseed oil fatty acids with their high unsaponifiable content and sundry odd and peculiar ingredients other than raw linseed oil.) Cottonseed oil as raw material for soft soap has superior qualities in some respects to linseed oil but here again according to its market price, it also lends itself to frequent substitutions by other oils and fatty acids, namely, double distilled cottonseed oil fatty acids.

Just why caustic soda? There is no longer any apprehension of a shortage of caustic potash such as occurred during the World War. The development of the American potash industry has eliminated this condition. We recommend therefore a straight *all-potash soft soap*. As a manufacturer of potash soaps for the past twenty years, we offer our suggestions in regard to the formula and tests for Soft Soap, U.S.P. for the medical profession.

We do not consider linseed oil, soya bean oil, corn oil or cottonseed oil or any other oil of the semi-drying type satisfactory for the production of soft soap. Our reason for this is that all drying and semi-drying oils are more susceptible to rancidity and color change in the finished soap than other types of vegetable oils. In our opinion, the oil to be used should be one selected from the non-drying type of vegetable oils, such as olive oil, sesame oil, peanut oil, almond oil, palm oil or coconut oil. We consider peanut oil and coconut oil those most likely to produce the most stable and satisfactory soap.

We eliminate olive oil and other foreign oils, adhering to the principle that if raw materials of domestic production are abundant and easily available those products should be given prime consideration. From this consideration peanut oil is preferable in many respects. Peanuts are a product of domestic agriculture. The crude oil is easily obtained and in abundance. When properly refined it is pure white, odorless and stable. The chemical composition of the fatty acids in the oil show that it contains approximately 60 per cent of oleic acid, 20 per cent of linoleic acid, 12 per cent of palmitic and stearic acids, 4 per cent of arachidic acid, 3 per cent of lignoceric acid and a low unsaponifiable content of .2 to .3 per cent.

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HEAT BLEACHING of Fatty Oils

By Paul D. Boone

IN the standard texts and manuals which make a serious effort to go into the subject of fat and oil purification and refining, most always there is a section devoted to bleaching by adsorbents, and by chemical oxidizing and reducing agents. There are in fact several excellent books which are devoted exclusively to bleaching fatty oils by use of decolorizing solids. This last method although efficient and widely used, has the disadvantage that the material is employed for one operation only, and the loss of oil removed and expense of its recovery represent an appreciable expense. The cost of chemical bleaching agents and their application is also an expense which cannot be ignored where refining charges must be held to a minimum.

Heat bleaching is a method for treating fatty oils which is seldom referred to in most texts, yet it is effective and entails less expense. It is interesting to soap manufacturers because it is applicable to most of the common oils and fats which go into the soap kettle. In this discussion, the term "heat bleaching" will be restricted to the use of direct or indirect heat where no adsorbent, oxidizing or reducing agent is added in any form to the oil undergoing treatment. Only in a cursory manner has steam deodorization been taken up, although it has long been recognized that under certain temperature conditions, this treatment is useful in lightening the color of an oil.

The methods discussed here have been taken from both the literature and patents in an effort to present the known art. Although no effort has been made to single out any sole method, more attention has been given to some of the more recent discoveries and their practical applications. Because various vegetable oils contain yellow color, it has seeemed expedient to include besides palm oil other oils which seldom are used in soap making. This is because the phenomena of color change is common although the range of temperatures of the individual oils differs considerably.

Louis E. Andes in his book[1] on vegetable oils and fats, states that bleaching palm oil by light and air is no longer employed because it is too slow and too expensive. He gives as a simpler method, heating the palm oil in a closed vessel to 240° C. (464° F.) and drawing off the vapors during the operation. At this temperature, bleaching is complete and a white product is secured. The peculiar empyreumatic smell gives place in a short time to the original pleasant odor. By heat exchange, the incoming oil is warmed by the treated oil which in turn is cooled as it is led off from the kettle.

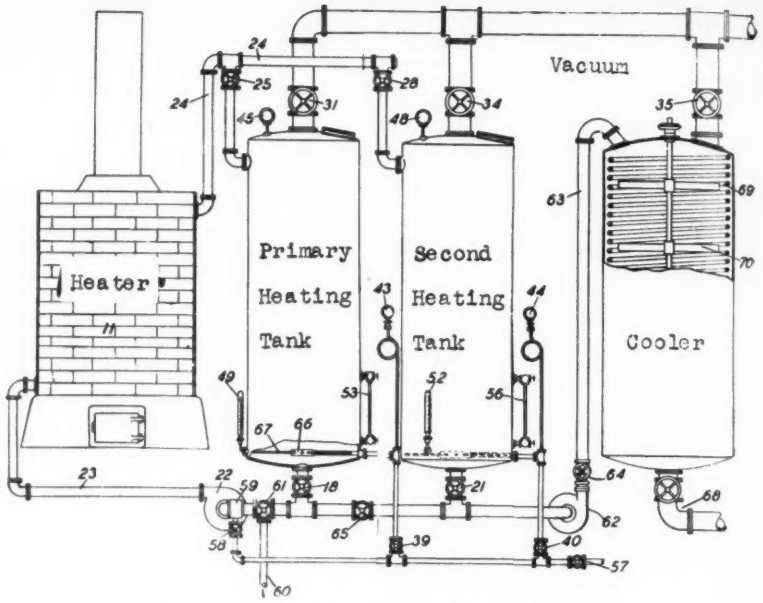
A report in the American Journal of Pharmacy[2] after re-stating some old well-known facts such as the coloring matter of palm oil is not affected by lye refining, but is bleached out by potassium dichromate-HCl, by hot air or by long exposure by light, launches into the observations of the investigators as how heat alone can take the color out. At 210° C. (410° F.), these investigators observed that the color started to leave, and at 255° C. (491° F.) the color change was definite. It was, however, not complete, measuring 35 yellow—6.3 red on the Levibond scale i. e. about the limit of prime summer yellow cottonseed oil. It was found that at 105° C.-110° C. (221°-230° F.) and by placing the oil in shallow glass or aluminum dishes for several days, the oil was bleached to 14 yellow and 1.4 red. In its hardened form at ordinary room temperature, the color was practically white, with a slight yellow tint only.

Webb[3] makes the bald statements: "Bleaching or deodorization by these newer methods is permanent and does not revert on aging. Further, the methods can be successfully applied to almost any oil or fat without any material alteration being necessary in the process." Then one of these modes is illustrated on an oil which has been treated with acidified Tonsil earth. The oil is put in an enclosed vessel in which as high a vacuum as possible is maintained. It is heated to between 245°-285° C. (473-545° F.), superheated steam (at seven lbs. per sq. in. absolute pressure) passed through it, distilling over impurities. This treatment is continued for two hours or so, after which the oil is maintained under vacuum until it is quite cold. Oils listed as suitable for such treatment are bone grease, secondary tallow, palm and palm kernel oils.

Jamieson[4] makes the statement that soy bean oil is bleached to a pale color by heating to 250-260° C. (482-500° F.) An alkali refined cottonseed oil, when treated by superheated steam at 200-225° C. (392-437° F.), is noticeably bleached. Of corn oil he states that it has been observed that the oil is bleached to a greater degree during deodorization

than it is by fuller's earth or activated char.

Thurman is an article[5] after summarizing the effect of alkalies, concentrated acids, and air on the color of vegetable oils, gives his results on heat treatment. Heat applied rapidly and up to 600° F. (315.5° C.) produces marked decolorizing effects on linseed, soy-bean, palm or any other oil containing excess yellow. With acid refined oils, he states that heat will darken certain oils. A summary of a Japanese patent in Chemical Abstracts[6] reports that alkali refined rape-seed oil is decolorized by heating.



System for oil bleaching with heat by the Landon Moore-Arthur Norman Process.

THERE is not a large number of patents on heat bleaching of fatty oils. The first suggestion in the U. S. patents comes from Richard Macdonald.[7] His rather brief disclosure is on summer yellow cottonseed oil. He passes superheated steam into the oil for three hours thereby heating the oil to about 300° F. He says that this decolorizes the oil, and also prevents the stearin from separating out.

Babbitt[8] patented his method in 1883. Palm oil or other oils he avers are bleached by treatment with superheated steam of say 500° F. for a period of fifteen minutes; the vapors pass off to a condenser.

Scollay[9] heats oils, illustrating with crude linseed, rapidly to the boiling point and then quickly cools. In the example, the oil is passed continuously through a small pipe in a heated sand bath. The oil moves on through this section to the next section, rapidly giving up its heat there to the atmosphere or to other cooling media, and is led to a settling tank. Here it is kept at about 150° F. for a period. If the temperature is above 212° F. before the oil enters the settling tank, steam generated by the elimination of water at the high temperature in the heating pipe escapes before the condensation takes place.

Leutkemeyer's method[10] is also a continuous process where the volatile matter is carried off during the heating step by the steam. Oil preheated to 200° F. flows to the heater where direct steam raised the temperature to 400°-500° F., preferably about 480° F., and the vapors pass off up the stack. Any albuminous matter is coagulated. The heated oil goes direct to the centrifuge, and the oil from here is filtered to remove residual traces of impurities.

Thurman's disclosure[12] is on raising mucilage-free linseed oil to 500° F.-600° F. while maintaining a vacuum on the oil, holding at this temperature until a test sample shows that the oils has been bleached to the proper degree. Then it is removed from the vessel and quickly chilled to 200° or lower. Steam can be employed during the heating.

Brief mention should possibly be given to a statement in an Ellis patent[11] that hydrogenated oil can be "bleached with fuller's earth or other bleaching agents or otherwise treated as by blowing with superheated steam at 150°-250° C. (302-482° F.) while subjecting the oil or fat to greatly reduced atmospheric pressure." Hydrogenation per se having a lightening effect on the natural coloring matter in oils, give as a starting material an oil not the same in respect to color as say a raw palm or palm kernel oil.

Newton and Richardson[13] in the process or preparing an oleaginous material, add 5-50 per cent of highly colored palm oil to lard, peanut or other oils and as a secondary factor during the vacuum deodorization at 360-420° F., secure a colorless oil. With lower temperatures the shade is not so light.

Gensecke[14] after reiterating that the so-called hot bleaching destroys coloring matter, expresses that his own contribution is that of distilling off in vacuo by means of an inert gas as steam, the fatty acids present or produced in the course of the heat treatment. This in point of time may be during the actual heating or after cooling down the oil or fat to a definite temperature. An alternative mode is that of spraying into a second vessel held under a high vacuum an oil which has been heated in another vessel "under which circumstance the evaporation of fatty acids occurs simultaneously." Still a third mode is that of heating to the maxmium temperature to effect the decolorization then cooling down to a suitable temperature whereupon a vacuum is applied to the apparatus and the fatty acids produced in the heat treatment are distilled off. The

oil is subsequently cooled with the exclusion of air.

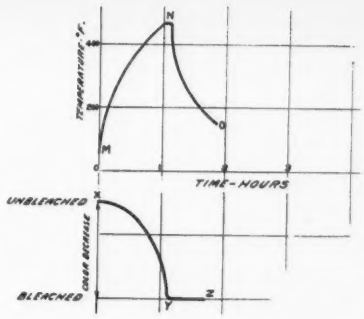
Clayton and Thurman[15] recommend passing an oil through a heated coil to bleach and then into a vacuumized vessel to withdraw volatiles. The heating to the range 420°-600° F. (depending upon the oil and the use for which it is intended) is as rapid as possible. Cooling is rapid also.

Moore and Norman[16] have an initial stage wherein the oil is heated in a closed vessel to a critical bleaching temperature range within which the color substances are effected. The specification brings out that each oil must be raised to a temperature as high as possible without reaching its flash point. This varies for each oil. For coconut oil, it is 400-410° F., for sesame oil 460-470° F., for soy bean oil 475-480° F. and for cottonseed oil 450-470° F. The oil is maintained under a high vacuum during the heating which is achieved by circulating the oil between a heater and a vacuumized kettle. An inert gas serves the dual role of preventing pocketing of the oil during circulating and also assists in removing volatile materials including the odoriferous. The oil which has been heated, to say 460° F., is then cooled in its transfer to another kettle to about 435° F. Here the oil is kept a longer time while still being exposed to the action of a vacuum. This period depends upon the degree of deodorization required. The steam is decreased and the vacuum increased to cool the oil down to about 350° F. The oil is then pumped to a cooler and while still under a vacuum cooled to approximately 150° F.

BECAUSE there would be almost always an overlapping, the British patents, if also patented in the United States, are not taken up again. There are a few methods of interest patented in that country, but not here.

Richard English[17] preheats oil, specifying linseed oil, which flows continuously through a pipe and emerging as a fine spray falls on the bottom of a tank heated by a furnace. This highly heated oil flows away through a pipe fillted into a water cooled tank. There is thus a sudden rise of temperature and a rapid fall of temperature.

By John Buchanan,[18] oil is caused to flow through the interior of a series of metal tubes on its way to a heater which may be of any convenient type. While passing through the heater the said oil is raised to the desired temperature. Then the oil flows through a perforated pipe over the exterior surface of the said series of metal tubes. It thereby undergoes a gradual decrease of temperature until it reaches the receiving tank.



Temperature-time and color-time relationship by the Landon Moore-Arthur Norman Process.

The oil is by this method rapidly heated and cooled quickly.

Geoffrey Martin and Wilfred J. Bizell[19] discovered that they could both decolorize and deodorize cocoa butter by raising its temperature to 140° C.-210° C. (284-410° F.) and keeping it there by blowing superheated steam there through while maintaining a good working vacuum. The time varies between 20 minutes and three hours, depending upon how bad the color and odor are. This material they state contains coloring matter and flavoring matter greatly in excess of allied vegetable oils.

By the British patent No. 327,990 wherein palm oil is particularly singled out, the oil is heated without the injection of any medium to a temperature of 250° C. (482° F.) for one hour and over while a vacuum is maintained over the kettle. Tests are conducted to see if the point is reached at which the oil can be saponified without the return of color. If the temperature is raised to 300° C. (572° F.), the time can be reduced to 10 minutes. The oil is removed by a pump or gravity to a storage vessel also held under vacuum to prevent scorching unless the oil is first cooled to a temperature below which this would not occur. Heat exchange to warm the incoming oil and cool the treated oil can be employed. This patent also makes mention that if palm oil is heated to 100° C. (212° F.) in the presence of steam, it will be

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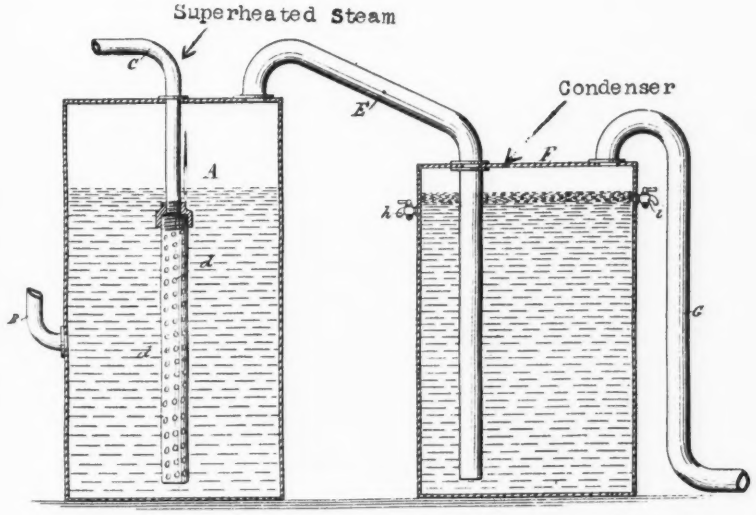
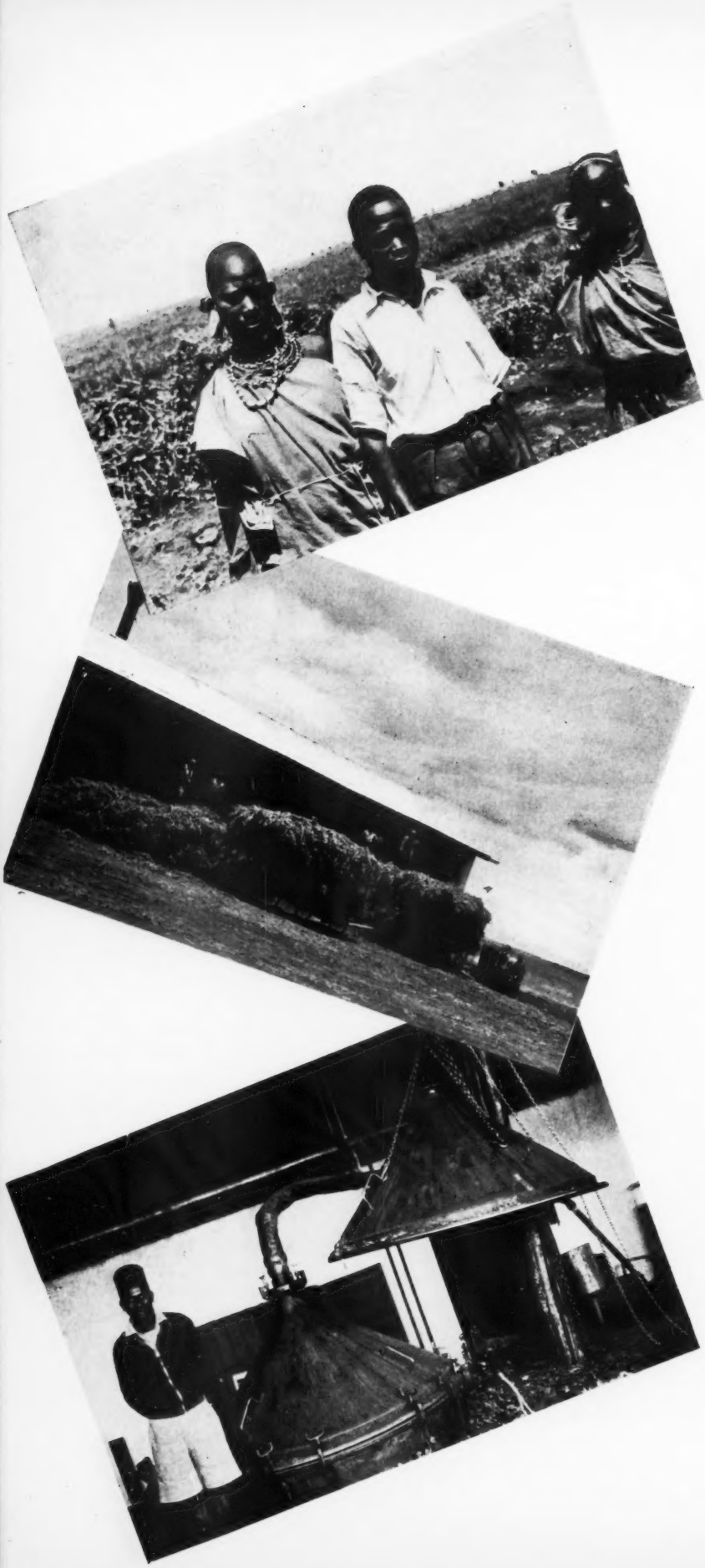


Set-up for bleaching palm oil with superheated steam. The B. T. Babbitt Combination.



PERFUME

SEVERAL years ago, E. W. Bovill,[3] who has done so much to foster the development of Kenya's new essential oil industry, stressed the importance and desirability of growing lavender in Kenya Colony. The original idea was to produce on Kenya's highlands true lavender (*Lavandula vera*) of the type distilled in the high altitudes of Southern France (Basses Alpes, Drome, Vaucluse). In September, 1937, the writer called on Cecil T. Soames, an English country squire who has been carrying out experiments on his beautiful property in Marindas, Molo, Kenya Colony, in an altitude of twelve thousand three hundred feet, with different types of lavender plants. The reproduction of true *Lavandula vera* plants, as imported from Southern France, proved to be a complete failure, very likely because *Lavandula vera* in Southern France requires a cover of snow during the hibernating state. The high altitudes of Kenya, very near the equator, are devoid of snow, except for the inaccessible tops of the highest mountains. The plants of true *Lavandula vera* on Mr. Soames' property soon degenerated.

However, his experiments with English lavender plants, imported from the Seal Herb Farm in Kent, England, were successful. The plants

Top — native labor is plentiful in Kenya Colony, East Africa, and is engaged for most of the work. Center—unloading plant material at a central distillery in Kenya. Bottom—view of the type of stills used in the central distilleries.

OILS of Kenya

Development and production of oils of mawah, geranium, lavender, cedarwood and others in East Africa

(*Part* II)

By Dr. Ernest Guenther
Fritzsche Brothers, Inc.

developed healthily and today Mr. Soames has under cultivation about 50 acres of plants little more than two years old. The quantity of oil will, of course, increase as the plants grow older and bigger.

They seem to be of the English type which approaches what in France is called "lavandin" rather than the true French lavender (*Lavandula vera*); in other words, probably a hybrid between *Lavandula vera* and *Lavandula spica*.

Analysis of an oil sample gathered by the writer on Mr. Soames' property confirms this opinion. The constants, established in our New York laboratories, read as follows:

Specific Gravity at 25°C:	0.877
Optical Rotation:	—12°25′
Refractive Index $^{n}D20°C$:	1.4699
Content of Linalyl Acetate:	8.8%
Solubility at 25°C:	Soluble in 1 volume of 80% alcohol; opalescent with more.

It is thus a typical oil of the English lavender type. Specific gravity approaches that of the French *Lavandula vera;* in regard to its low ester content, this oil resembles the French lavandin oils although the latter usually range around 18 and 20 per cent. The odor of the oil plainly recalls English lavender oil rather than French lavender; there is a certain resemblance, however, to French lavandin oil.

In order to market the oil successfully, it would seem advisable to introduce it as true English lavender oil in British toilet preparations and soaps where the scenting with real English lavender is stressed by advertising. There would be little use, in the writer's opinion, trying to let this "Kenya lavender oil" compete with French lavender or French lavandin oils, the latter being at present very low priced because of the low franc exchange rate.

It is interesting to note in this connection that Mr. Soames also experimented with spike plants (*Lavandula spica*) which seem to grow very well on Kenya's highlands. It remains to be seen whether such spike oil, if produced commercially, can compete with the Spanish oils. The lack of labor in Spain, caused by the present civil war, might in this case be helpful to the development of a Kenya spike oil.

Oil of Cypress, Kenya

THE main forest regions of Kenya are on the upper slopes of the Great Rift Valley, not very far from Njoro. However, timber has been cut down by the big timber companies to such an extent that legislation had to be enacted to preserve the forest belt in order to avoid soil erosion. Now the timber companies must pay royalties to the government with which the latter carries out an extended program of reforestation. Eucalyptus, a fast growing tree and useful as firewood, cypress, expected to become valuable sawmill timber about thirty years after planting, cedar (*Juniperus procera*, Hochst.) and other indigenous trees have been planted. In the Njoro area 12,000 acres of cypress have been established, which acreage is increased yearly by about 300 acres.

The young cypress trees (*Cupressus lusitanica*, Mill.) have to be trimmed every three years until they are fifteen years old. These trimmings are of no commercial value, except for oil distillation; otherwise they are left to rot in the woods. At present the trimming is done only when the government forest service is not busy otherwise. It could, however, be done at any time of the year should oil distillation develop and require considerable quantities of this plant material. There is at present one cypress distillery near Njoro to which the government granted a temporary license to gather and use the cypress trimmings. The distillation post is part of the Kenya Essential Oil Ltd.

Before distillation the plant material is freed from the heavier wooden parts so that only the branchlets and green parts are distilled. Distillation of one batch lasts about five hours; the yield of oil averages 0.1 per cent.

A sample collected by the writer in the above mentioned distillery near Njoro in September, 1937, showed the following properties upon analysis in our New York laboratories:

Specific Gravity at 15°C:	0.878
Optical Rotation:	+24°10′
Refractive Index, $^{n}D20°C$:	1.4762
Acid Value:	0
Ester Value:	22.9
Ester Value after Acetylation:	48.8
Solubility:	Hazy in 10 volumes of 90% alcohol.

The oil has an interesting odor slightly reminiscent of *Pinus Pumilio*, with a somewhat sharp top note recalling Californian mountain laurel oil (*Umbellularia californica*, Nutt.).

The oil could be used in conjunction with pine needle oils in toilet preparations like bath salts, also in room, hospital and theater sprays for imparting a fresh, clean scent. The oil has not yet been examined in regard to its medicinal value.

It should be noted that this Kenya cypress oil is quite different from the oil of *Cupressus sempervirens* as distilled in Southern France. The latter oil, if produced exclusively from the green parts of *Cupressus sempervirens* (not *pyramidalis*) and if distilled for twenty-four hours, contains some very valuable high-boiling constituents (sesquiterpene alcohols) to which the pronounced ambergris-like odor of the oil's evaporation residue is due. The same sesquiterpene alcohols are probably the medicinal principles for which the oil of *Cupressus sempervirens* is employed so successfully in cases of whooping cough.[4]

Oil of Tagetes ("Orina")

THE so-called Mexican marigold or khaki bush is a weed growing wild and freely in Central and South America. It was probably imported into South Africa during the Boer War of 1900, together with horse fodder from the Argentine. After the Boer War the Australian troops brought the weed home and nowadays it is found growing widely throughout Australia. During the African campaign of 1914 to 1918, the plant was imported into Kenya Colony where it is still spreading, a nuisance in velts and fields, over large stretches of the country. It grows plentifully along roadsides and in any plowed up land. It is still open to discussion whether the plant is *Tagetes minima* or *Tagetes minuta* L.; there seems to be a large *minuta* and a small *minima variety*, but this could also be a condition of their growth.

All parts of the plant seem to contain an essential oil of a strong, pronounced odor which can be obtained easily by steam distillation. However, in order to obtain a maximum of yield, distillation should be carried out during the period of seed formation, from August to October, right after the flowering period. Natives cut the plant material with long bush knives, a kind of machete. On account of transportation difficulties, only limited quantities of oil can be produced from the widely scattered, wild-growing plants. For larger quantities of oil, the plants would have to be cultivated,—a very easy task.

Distillation is carried out with direct steam, one batch requiring three to four hours. The average oil yield ranges from 0.3 to 0.4 per cent. The oil has a very powerful, characteristic odor, reminding somewhat of rancid butter and spearmint oil. It easily polymerizes upon standing, absorbing oxygen. Older oils contain a very high percentage of residue, until they become practically solid. The oil, therefore, has to be stored in well filled, dark bottles.

An oil collected by the writer in Njoro, Kenya Colony, September, 1937, and analyzed in our New York laboratories showed the following constants:

Specific Gravity at 15°C:	0.869
Optical Rotation:	+2°44'
Refractive Index, $^{n}D20°C$:	1.4841
Acid Value:	0
Saponification Value: ...	13.5
Ester Value After Acetylation:	71.1
Content of Ketones, calculated as Carvone:	44.6%

Solubility:—Insoluble in 10 volumes of 80% alcohol; soluble in 0.5 to 1 volume of 90% alcohol; cloudy with more.

The following constituents have been found so far in oil of tagetes:[5] Carvone, Linalol, Olefinic Terpenes (myrcene or ocimene), probably Linalyl Acetate, probably small quantities of a strongly smelling phenol.

On several occasions it has been claimed that the tagetes plant, respectively tagetes oil, acts as a fly and vermin repellent and indeed there seems to be some truth to it. The natives of East Africa hang tagetes plants in their huts to keep out the swarms of flies which are a terrible nuisance. Worm-killing experiments with tagetes were negative; the same is true with respect to tagetes as a remedy against internal parasites and no better results were obtained when tried on ticks and other external parasites.

As to fly repellent properties, the experiments carried out in South Africa are promising. Common house flies and blow flies in comparative tests entirely avoided baits scented with tagetes oil while they were attracted by and readily laid their eggs on control baits not perfumed with tagetes oil and placed in the vicinity.

Further experiments were made trying to develop an effective larvicide which would kill the maggots in wounds. An emulsion of water, carbon tetrachloride, some wool grease five per cent tagetes oil and a preserving agent, was found to be very effective.

At any rate, oil of tagetes deserves more research work along these lines. It is quite possible that the oil has merits which might be very interesting to the manufacturers of fly sprays. Once production has been organized on a larger scale, the oil could probably be marketed at about one dollar per pound.

Kenya Cedarwood Oil

LARGE quantities of cedarwood oil are produced in the southern states of the U.S.A., in saw mills, from the chips and sawdust of *Juniperus virginiana*, L. The anatomy of the wood of *Juniperus procera*, Hochst. which grows in East Africa, especially on the Western Mau, a mountain range on the edge of the great Rift Valley, is very similar to that of the American cedar tree, *Juniperus virginiana*, L. As in the United States, the African cedarwood oil is produced in timber mills as a by-product from residual cedar chips and sawdust resulting from the cutting of pencil slats,

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Higher Fatty Alcohols

Their synthesis particularly by hydrogenation as raw materials for the newer detergents

By Dr. Charles E. Mullin

THIS is the fifth article of a series by Dr. Mullin on the higher aliphatic alcohols with particular reference to those which are, or may be of interest in the manufacture of detergent and wetting products. These papers cover the present sources, both natural and synthetic, of these higher alcohols, as well as other sources of the synthetic products, at least some of which are likely to be of commercial importance in the near future.

—The Editors.

ACCORDING to French Patent No. 728,893, December 28, 1931, to H. Th. Bohme A.-G., carboxylic acids and their derivatives are reduced by the action of atomic hydrogen produced by electric waves, an electric arc or a mercury vapor lamp. An example is given of the reduction of the ethyl laurate to lauric alcohol.

According to British Patent No. 381,476, October 6, 1932, to H. Th. Bohme G.m.b.H., and German Patent No. 574,834, April 20, 1933, H. Pruckner, inventor, primary alcohols can be prepared by heating calcium formate in a solvent, such as dodecane, butyl alcohol, or the alcohol to be prepared, with the calcium salts of fatty acids and simultaneously reducing the aldehydes formed with hydrogen at elevated pressures in the presence of hydrogenating catalysts, for example, copper, nickel, cobalt and chromium compounds. Among examples, octyl alcohol is obtained from calcium octoate and formate dissolved in lauryl alcohol, the two alcohols being separated by distillation. Also see British Patent No. 385,488 and No. 406,714, French Patent No. 734,864 and addition No. 43,884, United States Patent No. 2,043,708, and German Patent No. 576,387 and No. 586,067.

In British Patent No. 385,448, December 29, 1932, and German Patent No. 576,387, May 12, 1933, both to H. Th. Bohme A.-G., the former an addition to British Patent No. 381,476 and the latter an addition to German Patent No. 574,834, H. Pruckner proposes to prepare alcohols by heating any salt of a fatty acid in a solvent with calcium formate, or the salt of another fatty acid. The carbonyl compound formed is simultaneously reduced with hydrogen under pressure in the presence of a hydrogenating catalyst. In examples, octadecyl alcohol is obtained from sodium stearate and calcium formate in water or cyclohexane; and a mixture of the secondary alcohols, $C_{11}H_{21}CH(OH)CH_3$, from a mixture of the calcium salts of acetic acid and the fatty acids of coconut oil. Also see British Patent No. 406,714.

According to Japanese Patent No. 98,816, December 23, 1932, to Y. Tanaka and R. Kobayashi, solid fatty acids and solid unsaponifiable material can be prepared from fatty oils, fats and waxes by hydrogenation in the presence of reduced nickel or nickel monoxide and an absorbent, such as Japanese acid clay, at 250 to 400°C. under ordinary or high pressure. The above indicates a rather wide range of temperatures and pressures for this patent and it is possible that under certain combinations of conditions, at least a part of the unsaponifiable product may consist of higher fatty alcohols.

Another Lazier Patent

According to W. A. Lazier, in British Patent No. 385,625, January 2, 1933, assigned to E. I. du Pont de Nemours & Company, the esters of aliphatic carboxylic acids are converted into alcohols by hydrogenation under pressure at above 200° C., and preferably 300 to 400° C., in the presence of a composite catalyst. The catalyst may contain any hydrogenating metal or oxide, such as copper, tin, cadmium, lead, manganese, cerium, zinc, iron or nickel, with or without promoters, for example, oxides of manganese, zinc, magnesium or chromium. Chromates or chromites of hydrogenating metals are effective catalysts. Examples describe the conversion of ethyl butyrate, ethyl acetate, butyl acetate, ethyl laurate, ethyl phenylacetate, ethyl adipate and butyl butyrate into the corresponding alcohols. See British Patent No. 397,938.

British Patent No. 410,087, February 24, 1933, to Johnson for the I. G. Farbenindustrie A.-G., covers the manufacture of wax-like substances from mixtures of aliphatic acyl compounds, in which the num-

ber of carbon atoms is not less than ten times the number of acyl groups present, by heating with decarboxylating catalysts in the liquid phase under such conditions that direct linking occurs to form longer carbon chains (the catalysts used are such as induce ketone formation) and hydrogenating the products. From montan and carnauba waxes, for example, by heating at 310 to 360°C. with iron or iron-kieselguhr and hydrogenating the product at 250°C. and three hundred atmospheres pressure with a nickel-kieselguhr catalyst, neutral unsaponifiable waxes of high melting point (80-104°C.), apparently consisting essentially of higher hydrocarbons, are obtained. Waxes of lower melting point but similar characteristics are obtained from olive oil, train oils, tallow, tall oil, oxidized paraffin waxes, or the corresponding free fatty acids.

French Patent No. 743,358, March 30, and British Patent No. 395,198, July 13, 1933, both to Henkel & Cie., G.m.b.H., state that alcohols are prepared by the catalytic hydrogenation of anhydrides of organic acids and mineral acids containing oxygen, or of the combinations of these compounds. Thus, boroacetic anhydride, $(CH_3COO)_3B$, or borostearic anhydride may be used. Catalysts having a basis of zinc, silver, nickel, copper or chromite of copper or nickel are suitable.

H. Pruckner, in German Patent No. 580,139, July 6, 1933, to H. Th. Bohme A.-G., proposes to obtain secondary alcohols by treating a salt of a fatty acid having at least two carbon atoms, or a mixture of such salts, at 150 to 400°C. with hydrogen in the presence of a solvent and a hydrogenation catalyst, preferably under pressure. In an example, a mixture of calcium acetate and the calcium salts of coconut-oil acids is treated with hydrogen at 320°C. and a hundred and thirty atmospheres pressure in the presence of cyclohexane and a copper catalyst, this giving a product consisting mainly of $C_{11}H_{23}CH(OH)CH_3$ and $C_{13}H_{27}CH(OH)CH_3$.

Japanese Patent No. 102,105, July 24, 1933, to the Nippon Chissohiryo K. K., S. Tashiro, inventor, covers the production of the higher alcohols by heating fatty acids or their esters with hydrogen under pressure and in the presence of catalysts such as the metallic soaps of, for example copper or zinc.

British Patent No. 396,311, August 3, 1933, to the Deutsche Hydrierwerke A.-G., covers a catalytic hydrogenation process in which the metallic salts of high molecular organic acids are used as catalysts for the reduction of fats, oils, waxes, fatty acids, etc., by hydrogen to high molecular alcohols at high temperatures and pressures. Such salts are the copper, zinc, lead, manganese, cobalt, nickel and mercury salts of palmitic, stearic, linseed oil, rosin and naphthenic acids. They may be formed within the substance to be reduced. For example, cupric carbonate and oleic acid may be added to coconut fat and the mixture heated in an autoclave to 280 to 300°C. under one hundred to two hundred atmospheres of hydrogen pressure.

More Du Pont Patents

In British Patent No. 397,938, September 7, 1933, to E. I. du Pont de Nemours & Company, the catalytic reduction by hydrogen of aliphatic monocarboxylic acids to produce alcohols and (or) esters is effected by means of a catalyst prepared by dissolving zinc nitrate (preferably predominating), cadmium nitrate and cupric nitrate in water and precipitating the metals as chromates by adding a solution of chromium trioxide and ammonia; the reaction mixture is neutralized with more ammonia and the precipitate washed, dried at 100°C., ignited at 400°C., granulated and pressed into tablets. Among examples, the catalyst is heated to 350°C. in a stream of hydrogen in a steel pressure vessel, the hydrogen pressure is then raised to two thousand pounds per square inch and lauric acid is pumped over the catalyst while hydrogen is drawn through the apparatus. The product contains lauryl alcohol and lauryl laurate. High yields of esters are obtained by high rates of flow and relatively low temperatures.

The German patent corresponding to the above British patent, is No. 655,198, January 11, 1938, to E. I. du Pont de Nemours. It includes an example, not given in the British patent, in which sebacic acid is hydrogenated to yield the corresponding glycol, $C_{10}H_{20}(OH)_2$.

According to British Patent No. 399,848, October 9, 1933, to E. I. du Pont de Nemours and Company, the higher alcohols can be prepared by treating a fat or fatty oil with an excess of hydrogen at 300 to 400° C. and one hundred to two hundred and five atmospheres pressure in the presence of a mixed cadmium-copper-zinc chromite catalyst. If olefinic linkages are present in the products, they may be reduced by further hydrogenation with a nickel catalyst. The catalyst may be prepared by adding a solution of ammonium dichromate and ammonium hydroxide to a solution of zinc, copper and cadmium nitrates. Examples are given of the hydrogenation of cottonseed, palm, coconut and castor oils, further hydrogenation with a nickel catalyst being used in the case of cottonseed oil. Palm oil yields mainly cetyl alcohol and coconut oil a mixture of octanol, decanol, lauryl and myristyl alcohols.

According to Swiss Patent No. 178,814, October 16, 1933, to the Chemische Fabrik vorm. Sandoz, high-molecular alcohols can be prepared by the catalytic hydrogenation of compounds of the general formula RCOOR', in which R represents a nonaromatic organic residue with a chain of at least four carbon atoms and R' a residue split off by hydrogenation. The reaction is carried out at high temperatures and pressure and the catalyst consists of a mixture of the oxides of heavy metals containing not more than ten per cent of iron. Preferably the catalyst is a mixture of cupric, chromic and ferric oxides. In an example, the cetyl ester of palmitic acid is hydrogenated to give cetyl alcohol. The presence of ferric

oxide in the catalyst reduces the amount of unchanged ester from 3 or 4 per cent to 1 or 2 per cent. See British Patent No. 440,934.

More Pruckner Patents

German Patent No. 586,067, October 18, 1933, to H. Th. Bohme A.-G., H. Pruckner, inventor, an addition to German Patent No. 574,834, states that the method of the former patent (No. 574,834) can be modified by dispensing with the solvent, the alcohol formed in the process serving this purpose. For example, the calcium salt of cocao fatty acid is treated with calcium formate in the presence of a copper-chromium catalyst to give the corresponding alcohol. See British Patent No. 381,476.

British Patent No. 406,714, March 8, 1934, to H. Th. Bohme A.-G., an addition to British Patent No. 381,476 and No. 385,488, states that the calcium formate of the earlier patents can be replaced by another salt or salts of formic acid.

W. Normann and H. Pruckner, in German Patent No. 594,481, March 17, 1934, to the I. G. Farbenindustrie A.-G., found that aliphatic alcohols containing at least eight carbon atoms are prepared by reducing the corresponding free carboxylic acids of fats by treatment with hydrogen at a raised temperature and pressure in the presence of a hydrogenation catalyst and a lower aliphatic alcohol. A copper catalyst is preferred. An example is given.

More Lazier Patents

United States Patent No. 1,964,000, June 26, 1934, to W. A. Lazier, assigned to E. I. du Pont de Nemours and Company, covers the catalytic hydrogenation of fatty oils, etc., and states that the compound to be hydrogenated is brought, together with hydrogen under pressure, into contact with a catalyst prepared by heating a multiple chromate of a nitrogen base, such as $Ni_2O(NH_4)_2(CrO_4)_2$ to the decomposition temperature and reducing the product in hydrogen.

According to Canadian Patent No. 346,159, November 20, 1934, to W. A. Lazier, assigned to Canadian Industries, Ltd., derivatives of inorganic acids, such as esters, amides, anhydrides, acid halides and salts, can be hydrogenated in contact with a hydrogenating catalyst under a superatmosphere pressure and at an elevated temperature. The acid derivatives should contain at least two carbon atoms in the acyl residue, since the derivatives of formic acid are extremely sensitive to heat and decompose under the high temperature conditions at which the reaction must be effected.

Canadian Patent No. 346,154, November 20, 1934, to W. A. Lazier, assigned to Canadian Industries, Ltd., states that an ester of a monobasic carboxylic acid containing two or more carbon atoms is hydrogenated by treatment with hydrogen at 300 to 400° C. under a pressure in excess of ten atmospheres in the presence of a chromite catalyst consisting of a mixture of reduced hydrogenating metals and their oxides at least partially combined with chromium oxide. See British Patent No. 312,043.

Canadian Patent No. 347,168, January 1, 1935, to W. A. Lazier, assigned to Canadian Industries, Ltd., states that an ester of a nonaromatic carboxylic acid containing more than one carbon atom per carboxyl group is converted into the corresponding alcohol by treatment with hydrogen at a temperature in excess of 300° C. and at a pressure in excess of twenty-five atmospheres in the presence of a catalyst comprising a difficultly reducible metal oxide promoted by chromium oxide.

Another U. S. A. Patent

United States Patent No. 1,987,558, January 8, 1935, to A. Hintermaier and assigned to Henkel & Cie G.m.b.H., covers a process for the production of aliphatic alcohols containing at least eight carbon atoms, such as octadecyl alcohol, in which the anhydride of an aliphatic acid containing at least eight carbon atoms and a weak inorganic oxygen-containing acid, such as boric-acid-stearic-acid anhydride, are heated together with hydrogen at a temperature of at least 180° C. and under a pressure of at least one hundred and thirty atmospheres in the presence of a hydrogenating catalyst, such as copper chromite.

The Imperial Chemical Industries, in French Patent No. 785,718, August 17, 1935, state that fatty acids and their esters are reduced to the corresponding alcohols by passing a rapid current of hydrogen through a strongly agitated mixture of catalyst and acid or ester, so that the alcohols are removed as they are formed. Suitable equipment is described, in which the hydrogen passes in a closed cycle.

In British Patent No. 433,549, August 16, 1935, to S. J. Green and Imperial Chemical Industries Ltd., the fatty oils or wax esters, including sperm and like oils, or the corresponding fatty acids or other esters thereof, are reduced to the corresponding alcohols by treatment with hydrogen and a hydrogenation catalyst, such as nickel, cobalt, copper, iron, platinum, palladium or oxides thereof, or zinc oxide, with or without an acidic oxide, for example, silica, alumina, or an oxide of tungsten, chromium, molybdenum or vanadium, the reaction mixture being vigorously agitated and the hydrogen passed through rapidly to carry over the alcohols. Pressure may be employed. Suitable equipment is described.

W. Normann and H. Pruckner in German Patent No. 617,542, August 26, 1935, to the Bohme Fettchemie G.m.b.H., state that aliphatic alcohols with more than eight carbon atoms in the chain are prepared by treating the corresponding acids, free from aging products, with hydrogen at a high temperature and pressure in the presence of a catalyst. Thus, cupric acetate is dissolved in water and added to kieselguhr. An excess of soda solution is added to precipitate the copper as carbonate. This is reduced in a stream of hydrogen at 190 to 200° C. The product is a catalyst suitable

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Perfume Oils

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wagon wood and other wood works. Two rather primitive stills are installed near Njoro; several others are located in the forests.

Distillation is simple; it lasts about eight hours per batch in larger stills and four hours in smaller stills. The average commercial oil yield varies around 1.2 per cent. The best yield is obtained from very fine sawdust resulting from the cutting of pencil slats. Such dust, however, has to be mixed with chips in order to prevent funneling in the stills. At present yearly production amounts to about thirty tons of oil but this could be increased considerably if prices were sufficiently attractive to extract all available chips and dust material for their essential oil. Production, in general, is not expensive; native labor is low priced and the extracted chip and dust material can be used as fuel. Much material is available for distillation because the wood of the African *Juniperus procera* is not particularly good and there is much waste from cutting.

The crude product first resulting from distillation consists of a dark, semi-solid mass which separates in the Florentine flask into a crude black oil and smeary black solids. The latter are further separated, in a centrifuge of two thousand revolutions per minute, into black crude oil and dry black crystals (crude cedrol). Both products, the crude black oil and the dry black crystals, are subsequently redistilled, separately, whereby light cedarwood oil and light cedrol crystals are obtained, which can be marketed as such. This rectifying process entails only little loss, in the form of residue in the stills.

Most of the Kenya cedarwood oil has been exported to the United Kingdom, although the oil, on account of its low cost of production, might be able to compete with the American oils. As to quality, it must be said that the African oil is very fine, though somewhat different from the American oils. Its odor is slightly reminiscent of vetiver oil. It is true that the Kenya cedarwood oil is distilled exclusively from chips and sawdust of *Juniperus procera* and not from added leafy material cut from felled tree tops.[6] In order to lower cost of transportation it is advisable to ship only the crude oil in very cheap drums and carry out the rectifying process in Europe or America.

A sample of pure oil of *Juniperus procera* produced near Njoro, Kenya Colony, was analyzed in our New York laboratories and showed the following constants:

Optical Rotation:	0.977
Specific Gravity at 15°C:	—88°56′
Refractive Index, $^{n}D20°C$:	1.5050
Acid Value:	4.2
Saponification Value:	17.7
Ester Value After Acetylation:	54.1
Solubility at 20°C:	Clearly soluble in 9 to 10 volumes of 90% alcohol.

This oil does not congeal in a freezing mixture. Its odor and other properties differ considerably from *Juniperus virginiana*, L.

References

[3] *The Manufacturing Chemist*, January 1935, 21.

[4] "Oil of Cypress" by Dr. Ernest Guenther in *The American Perfumer*, August 1932, 319.

[5] *Les Parfums de France*, January 1936, 6.

[6] See also *The Perfumery and Essential Oil Record*, May 1936, 206.

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Heat Bleaching of Oils

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bleached but the coloring returns on saponification.

The British patent to Gensecke corresponds to his U. S. patent. But the discussion brings in many aspects of oil bleaching in general which it does not seem should be passed over. He states (1) that the bleaching by heat can not be observed with all kinds of oil and fats, (2) the temperature to which the oil must be heated varies with the different kinds of oils and fats. The thing that Gensecke strives to bring home is that the drawbacks adversely affecting bleaching of fatty oils at a high temperature is the presence of fatty acids. The heat step results in formation of fatty acids—a fact well known.

Summary

The various oils and fats that find demands in the soap industry can be bleached by the employment of high temperatures. Both batch and continuous processes have been employed by investigators. Steam or other inert gases are frequently employed, supplemented sometimes by a vacuum, vacuum alone has been used. Palm oil and linseed oil have had the most investigation. But Moore and Norman have made tabulations on the conditions for various individual oils and have stated that "cotton seed oil has its color changed from a red substantially towards white." With two exceptions (observations of Macdonald on summer yellow cottonseed oil and Martin on cocoa butter), the lower range is about 400° F. or above. The effective temperatures varies with the type of oil, and also doubtless on operating conditions. Heat bleaching of oils for the soap kettle might find wider uses in the interest of economy. References:

1. Andes, Veg. Fats and Oils, 3rd Edition, 1917, p. 296.
2. Aer. J. Pharm. April 1922, p. 247.
3. Webb, Modern Soap and Glycerine Manufacture, Davis Bros. London, 1927, p. 40.
4. Jamieson, Veg. Fats and Oils, pp. 268; 186-187; 152.
5. J. Ind. & Eng. Chem., Vol. 24, No. 10, p. 1187, by Benj Thurman.
6. Chem. Abstracts, Vol. 16, p. 3407.
7. U. S. Patent No. 189,867 to Richard Macdonald, 4-24-1877
8. U. S. Patent No. 281,823 to Benj. T. Babbitt, 7-24-1883.
9. U. S. Patent No. 498,821 to Geo. W. Scollay, 6-6-1893.
10. U. S. Patent No. 647,004 to G. W. Leutkemeyer and W. A. Harshaw, 4-10-1900.
11. U. S. Patent No. 1,067,978 to Carlton Ellis, 7-22-1913.
12. U. S. Patent No. 1,790,514 to Benj. H. Thurman, 1-27-1931.
13. U. S. Patent No. 1,890,585 to R. C. Newton and W. D. Richardson, 12-13-1932.
14. U. S. Patent No. 2,003,076 to Wilhelm Gensecke, 5-28-1935.
15. U. S. Patent No. 2,110,789 to Wm. Clayton and Benj. Thurman, 3-8-1938. Reissue 2-8-1938.
16. U. S. Patent No. 2,122,260 to Landon Moore and Arthur Norman, 6-28-1938.
17. British Patent No. 9799 of 1897 to Richard English.
18. British Patent No. 10,326 of 1905 to John Buchanan.
19. British Patent No. 122,512, Geoffrey Martin and Wilfred Bizell, 1-30-1919.
20. British Patent No. 327,990 date 4-14-1930.
21. British Patent No. 375,381 date 6-20-1932.

SOAP BUYING HABITS

A study of soap preferences in the Milwaukee market for 1938

SOAP buying habits in the Milwaukee market are checked annually by the *Milwaukee Journal*. Reflecting as they do the buying policies of a representative cross-section of the American public, they give some idea of the national urban market for soaps and allied products. The following figures, taken from the 1938 survey, give the percentage of families in the district using each product, the average consumption where the product is used, and the brands preferred by the largest percentage of Milwaukee residents.

White Laundry Soap

used by 55% of reporting families average consumption—5.7 bars per month. Leading sellers:

"P. & G." 59.6%
"Crystal White"... 21.4%
"Ivory" 19.8%

Brown Laundry Soap

used by 63.7% of reporting families average consumption—5.6 bars per month. Leading sellers:

"Fels Naptha" 80.5%
"O K" 13.1%
"American Family". 5.1%

Granulated Soap and Soap Beads

used by 74.4% of reporting families. Leading sellers:

"Rinso" 56.1%
"Oxydol" 45.7%
"Super Suds" 16.4%

Package Soap Flakes

used by 77.2% of reporting families average consumption—2.6 pkgs. per month. Leading sellers:

"Hanser's" 30.1%
"Lux" 28.9%
"Chipso" 16.6%

Toilet Soap

used by 99.2% of reporting families average consumption—5.4 bars per month. Leading sellers:

"Lux" 31.9%
"Lifebuoy". 20.7%
"Palmolive" 20.3%

Soap Crystals, Water Softeners

used by 29.2% of reporting families average consumption—1.7 pkgs. per month. Leading sellers:

"Climalene" 53.7%
"No Name" 10.1%
"Melo" 5.6%

Washing Powder

used by 6.8% of reporting families average consumption—1.9 pkgs. per month. Leading sellers:

"Gold Dust" 73.9%
"Magic" 4.2%

Scouring Cleansers

used by 88.4% of reporting families average consumption—2.9 cans per month. Leading sellers:

"Kitchen Klenzer". 39.3%
"Old Dutch"..... 28.2%
"Gold Dust" 9.4%

Toilet Bowl Cleansers

used by 63.2% of reporting families average consumption—6.8 pkgs. per month. Leading sellers:

"Sani-Flush" 50.8%
"Bowlene" 45.7%

Bleaching Fluid

used by 60.5% of reporting families average consumption—1.5 bot. per month. Leading sellers:

"Hilex" 40.6%
"Wonderene" 14.8%
"Novel Wash" 11.0%

Shaving Cream

used by 47.9% of reporting families average consumption—6.4 tubes or jars per year per man. Leading sellers:

"Palmolive" 39.5%
"Lifebuoy" 24.8%
"Williams" 8.7%

Brushless Shaving Cream

used by 18.5% of reporting families average consumption—6.1 tubes or jars per year per man. Leading sellers:

"Burma Shave" ... 22.8%
"Molle" 16.4%
"Barbasol" 15.6%

Tooth Paste

used by 65% of reporting families average consumption—2 tubes per month. Leading sellers:

"Colgate's" 18.8%
"Pepsodent" 17.9%
"Ipana" 16.6%

Tooth Powder

used by 57.3% of reporting families average consumption—1.4 cans per month. Leading sellers:

"Dr. Lyon's"..... 59.6%
"Pepsodent" 8.0%
"Revelation" 5.0%

Liquid Shampoos

used by 47.8% of reporting families average consumption—5.2 bots. per year. Leading sellers:

"Drene" 48.7%
"J. R. Watkins" ... 15.6%
"Fitch's" 8.3%

A law recently promulgated in Egypt forbids the manufacture, export, import or sales of soap containing less than 40 per cent of fatty acids or resinous substances, or more than 0.5 per cent of caustic soda. World Trade Notes on Chemicals and Allied Products **5**, 903 (1938).

New Products and

"Landford" garden spray, a new product of Geo. H. Nowland Co., Cincinnati, is marketed in this effective counter display designed by Richardson-Taylor-Globe Corp., Cincinnati. Labels by Rainbow Lithographing Co., Cincinnati.

Bac-Trol, the new germicide just introduced by Baird & McGuire, Inc., Holbrook, Mass., is packed in 1, 5, 10 and 15 gallon sizes. Printing on the container is in blue on a white background.

Containers for "Savogran" crack filler and heavy duty cleaner, products of Savogran Co., Boston, have just been redesigned. The new containers are on the extreme left and right. The confused effect of the old packages has been eliminated. Labels by Dobeckum Co., Cleveland. Containers by American Can.

Packages

Socony - Vacuum Corp., New York, has recently added a new item to its line of chemical specialties, "Bug-a-boo" garden spray. The can is by American and bears a family resemblance to the rest of the "Bug-a-boo" line.

Robert Gee Cosmetic Co., St. Louis, uses a plaid motif in its recent redesigning of its "Tidy-up Kit." The plaid is printed in cream, gray, black and red. Caps and jar covers supplied by Armstrong Cork.

The "Snow Bird" line of Butler Bros., Chicago, has recently been redesigned for them by Phoenix Metal Cap Co. Lithographed caps are used throughout. Photo courtesy Heetfield-Tillou.

TURNER

CAUSTIC POTASH
CARBONATE OF POTASH
CAUSTIC SODA
CHLORIDE OF POTASH
RED OIL
PETROLATUM
WHITE OILS
INSECTI - SOL
(**Colorless, odorless insecticide base**)

Telephones:
Ridgefield — MOrsemere 6-5630
New York — CHickering 4-7531

JOSEPH TURNER & COMPANY

RIDGEFIELD, N. J.

83 EXCHANGE PL.
PROVIDENCE

630 FIFTH AVE., NEW YORK

40TH ST. & CALUMET
CHICAGO

News....

Laurel Soap Appoints Sargent

W. R. Sargent has recently been appointed sales representative for Laurel Soap Manufacturing Co., textile soaps, oils and finishes, Philadelphia. He has had a number of years of practical mill experience in the South, and will cover eastern South Carolina, Georgia, Alabama, and part of Tennessee, with warehouse stocks available at Charlotte, N. C., and Chattanooga, Tenn.

Forms Vegetable Soap Co.

A certificate to conduct business under the firm name of Vegetable Soap Products Company, at 1015 Santa Fe Avenue, Los Angeles, Calif., has been issued to the owner, Kenneth B. Cannon, of Pasadena, Calif.

Hecker Products Earnings

Hecker Products Corp., New York, just taken over by Lever Bros., has reported a consolidated net income of $508,529, or 29 cents a common share for the quarter ended Dec. 31, against $213,976, or 12 cents a common share in Dec., 1937, quarter, and $562,345, or 31 cents a share in September, 1938, quarter.

Wants Soap Agency

A firm in Cyprus desires an agency for creams, powders, and toilet soaps. Interested American firms may secure further information by applying to the U. S. Bureau of Foreign and Domestic Commerce, referring to file No. 195.

Honor Magnus at Drug Dinner

Percy C. Magnus, head of Magnus, Mabee & Reynard, Inc., New York, who last year completed six years as president of the New York Board of Trade, was honored at a testimonial dinner at the Hotel Waldorf-Astoria, New York, the evening of January 26 attended by some five hundred of his friends in the New York drug and chemical trades. Honorable Frederick E. Crane, Chief

Percy C. Magnus

Judge of the New York Court of Appeals, acted as toastmaster, and Thomas I. Parkinson, president of the Equitable Life Assurance Society of the United States made an address in which he discussed taxes, tax-exempt securities and the financial plight of the railroads. W. E. McKell, present executive head of the New York Board of Trade, presented Mr. Magnus on behalf of the board with a bound collection of letters received in appreciation of his long years of service on the board.

Copy Perfected for "Vel"

Colgate-Palmolive-Peet Co. will launch a large-scale newspaper campaign March 1, for their new product Vel, a "soapless soap." Benton & Bowles, Chicago, have developed three types of copy which in a sampling test in such cities as Peoria and South Bend, created rapid acceptance for the product. The appeal being used in the copy is beauty and double economy.

Soap Company Incorporates

Help Inc., 134 North La Salle Street, Chicago, has recently been incorporated. They will deal in soaps and cleaners. Incorporators are E. Kirby Martin, P. S. Bezeck, and J. D. Teitelbaum.

Jergens Locates Plant

Andrew Jergens Co., Cincinnati, soaps and toilet preparations, will establish their new $1,000,000 eastern plant in Belleville, near Newark, N. J. The site now occupied by the Belleville Copper Rolling Mills has been chosen tentatively as the location for the new plant, which will be in production in 1940. It will manufacture both Jergens and Woodbury products.

Agency in Turkey

A firm in Istanbul is interested in establishing an agency for an American manufacturer of dentifrices, toilet and shaving soaps. Further particulars may be obtained by making application to the U. S. Bureau of Foreign and Domestic Commerce, referring to file No. 134.

Puhl Products Ad Campaign

Cecil & Presbrey, Chicago, is directing an advertising campaign for John Puhl Products Co., that city, manufacturer of "Little Boy Blue" bluing, "Little Bo-Peep" ammonia, and "Fleecy White" laundry soap.

Finkelhor as Counsel

Food, Drug and Label Service Corp., New York, now in new offices at 21 East 40th Street, has retained Francis Finkelhor as general counsel. Charles Schig has been elected president of the company, which is offering a label checking service to manufacturers of soaps, toilet preparations, drugs, etc.

P. & G. Earnings Up

Procter & Gamble Co., Cincinnati, recently reported for the six months ended Dec. 31, consolidated net earnings of $11,882,260, equal to $1.80 a share on the common stock. In the comparable half of the previous year, the net was $9,384,685, equal to $1.40 a share.

Albany Soap Elects

Joseph Grober was again named president and general manager of Albany Soap Corp., Albany, New York, at the annual meeting held January 10. Other officers were also re-elected as follows: William C. Schopman, vice-president; William H. Geier, assistant manager; John H. Rea, treasurer; and Harry J. Geier, secretary.

Lever To Operate Hecker Plant

Lever Brothers Co., Cambridge, Mass., who early last month purchased the soap division of Hecker Products Corp., will continue to operate the soap plant in Baltimore, which it acquired along with all the Hecker soap brands. The main brands are "Gold Dust Washing Powder," "Gold Dust Scouring Cleanser," "Silver Dust," "Fairy Soap," and "Sunny Monday Laundry Soap." Lever Bros. have announced that advertising of "Fairy Soap," "Gold Dust" and "Silver Dust" will continue to be handled by Batten, Barton, Durstine & Osborn, New York. In time the Baltimore plant may produce other soap products in the Lever line now manufactured elsewhere.

A letter sent to stockholders of Hecker Products Corporation by George K. Morrow, Chairman, commenting on the sale of the Hecker Soap Division to Lever Brothers Company states, "The price received from the sale will approximate $2,500,000 cash, including the estimated proceeds of accounts receivable retained by our Corporation. . . . Generally speaking, the price represents approximately the balance sheet value of the business, except in the case of goodwill for which we received the sum of $850,000. . . . The soap business of the Corporation is relatively small and amounts to less than 3 per cent of the industry. . . . We are convinced that to attain a reasonably competitive and hence a reasonably sound and secure position in the soap industry our Corporation would have to spend many millions of dollars for plant and product expansion and advertising."

Charles Kelly Dies

Charles E. Kelly, senior partner in Hagerty Bros. & Co., New York, and chairman of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, died suddenly, January 18, after an emergency operation for an acute attack of appendicitis at Overlook Hospital, Summit, N. J. Funeral services were held January 21, at the St. Rose of Lima Church, Short Hills, N. J., near the Kelly home. They were attended by many of Mr. Kelly's friends in the drug and chemical industry. His wife, Ruth Patrick, and four daughters survive. Mr. Kelly was educated at St. Peter's College, graduating in 1917, and served with the Signal Corps in the World War. He had long been active in the chemical and allied fields and prior to his election as president of the drug section he had served a term as president of the Chemical Salesmen's Association. He was a member of the Baltusrol Golf Club, Maplewood Country Club, the Downtown Athletic Club and the Drug and Chemical Club.

Charles E. Kelly

N. Y. to Buy School Soap

The New York City Board of Education has approved a $25,000 item in the 1939 school budget, which was proposed by the building and sites committee in order to conduct an experiment to determine the feasibility of including soap in the schools. Officials indicated that if the experiment proved successful, the schools in the future might be supplied with the necessary aids to cleanliness. Last Fall Ellsworth B. Buck, chairman of the building and sites committee, in a Richmond experiment, found that soap and towels could be provided for the schools for $250,000.

To Build Hydrogenation Plants

Southwestern Engineering Co., Los Angeles, has just taken over exclusive manufacturing and sales rights in United States and Canada on a continuous hydrogenation process developed in England by Technical Research Works Ltd. They advise that the first new plant to be installed in the United States will be in operation early this Spring.

Committee D-12 Meets Mar. 27

Committee D-12, American Society for Testing Materials, which is forming specifications on soaps and detergents, will meet March 27 and 28 at the Hotel New Yorker, New York. The sections will meet all day Monday, and Tuesday morning; luncheon will be Tuesday noon followed by a general meeting of the committee.

Jones With Quaker Products

Quaker Chemical Products Corp., Conshohocken, Pa., has recently added James B. Jones to its laboratory staff for control and development work. Mr. Jones was formerly with General Dyestuff Corp., and more recently with Buffalo Electro Chemical Co. doing research work on bleaching agents.

McCarthy Leaves Iowa Soap

Walter P. McCarthy, general sales manager of Iowa Soap Co., Burlington, Iowa, since 1928, has recently resigned.

Gilmann Joins Quaker Corp.

Dr. Henry H. Gilmann of Brooklyn, has joined the Research staff of Quaker Chemical Products Corp., Conshohocken, Pa., where he will work on technical development in organic detergents and wetting agents. For over five years Dr. Gilmann was chief chemist with City Chemical Corp., New York, on organic synthesis and development, and about one year with Glyco Products, Inc., New York, as technical director.

To Advertise "Su-Purb" Soap

Safeway Stores, Inc., Oakland, Calif., recently appointed Lord & Thomas, San Francisco, to handle the advertising for its "Su-Purb" granulated soap.

P&G Leads Radio Advertisers

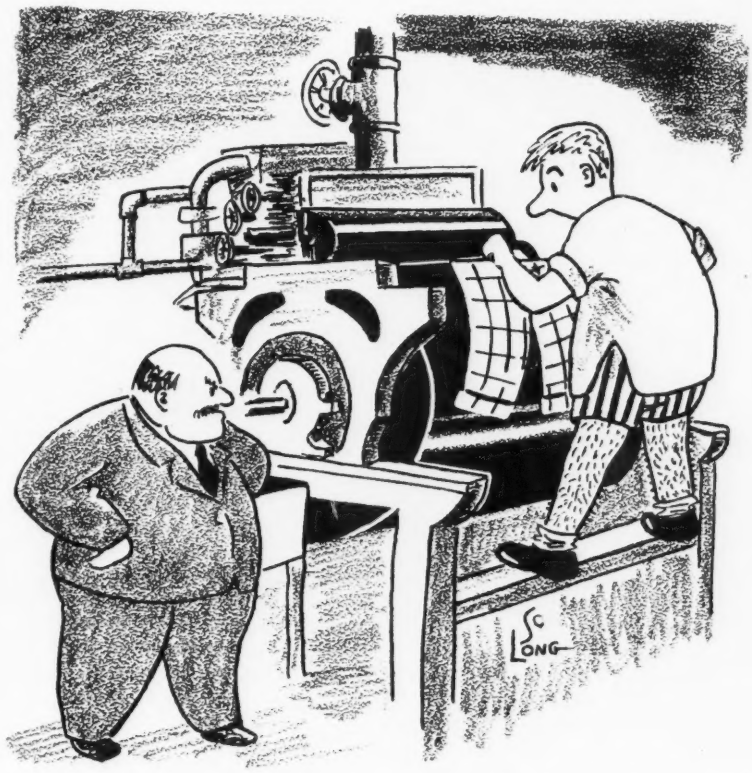
Procter & Gamble Co., retained its hold on first place among radio time buyers for 1938, having spent $6,170,862, a substantial increase over the company's $4,496,047 expenditure during 1937. Among the first ten were four other firms in the soap and sanitary chemical field: Lever Bros. Co.; Sterling Products Co.; American Home Products Co., and Colgate-Palmolive-Peet Co.

Allow So-White Registration

The U. S. Patent Office has held that H. Kirk White & Co., Oconomowoc, Wisc., is entitled to register the trade-mark "So-White Hand Cleaner," notwithstanding use by Oakite Products, Inc., New York, of the term "Oakite". The examiner held that the marks are not confusingly similar.

Wants Soap Agency

A firm in Malta would like to establish an agency for the sale of American toilet, bath, and laundry soap. Interested American firms may obtain further particulars by applying to the U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C., referring to file No. 8885.



"How many times must I tell you, Casey, that this is a soap factory,—not a cleaning and pressing establishment?"

New Laundry Chemical Firm

Chemical Manufacturing and Distributing Co., has taken possession of the plant that was formerly occupied by the Hercules Powder Co., located at 6th and Lehieton Streets, Easton, Pa. They will manufacture and distribute a complete line of industrial, institutional, laundry, and textile chemicals. C. E. Schadd, is taking active charge of the management. He was formerly with this Paper Makers Chemical Division, of the Hercules Powder Co.

Chicago Soap Ass'n Elects

At the annual business meeting of the Chicago Perfumery, Soap and Extract Association on December 30th at the Bismarck Hotel the following were unanimously elected officers for 1939: A. A. Bafetti, president; Paul H. Pettit, vice president and Thomas Morgan, secretary-treasurer. W. Kedzie Teller, the retiring president, was presented with a set of sterling silver candle-sticks in appreciation of his services. The next meeting is scheduled for February 7th.

Canada Extends Price Control

Application of the Canadian Food Products Minimum Loss Act was recently extended to soap products, and soap substitutes. Inclusion of these products now includes, for the first time, outlets handling soap and allied products. The statute forbids sales at less than five per cent above the recognized wholesale cost.

Egyptian Soap Law

The Egyptian Government has just enacted a law which forbids the manufacture, export, import or sale of soap containing less than forty per cent acid fats or resinous substances, or more than 0.5 per cent caustic soda.

Hardware Ass'n Convention

The Pennsylvania and Atlantic Seaboard Hardware Association will hold its 1939 convention at the Hotel William Penn, Pittsburgh, on February 21, 22, 23, 24.

"Yes, dear, I know it's my fault. I should have kept to the right back there when you said, 'turn left'."

You'll never get off the right road if you trust your own judgment and stick to

NIAGARA CARBONATE OF POTASH

The right road leads to Niagara Caustic Potash and Caustic Soda, too.

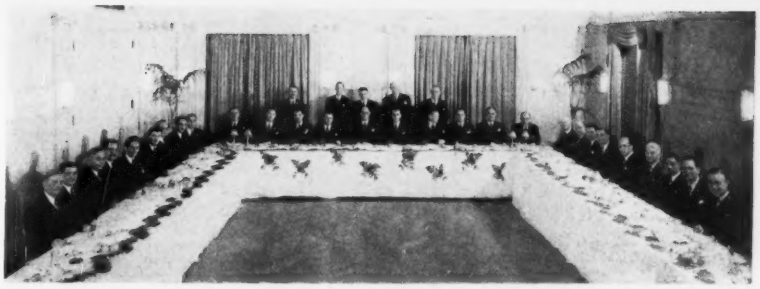
NIAGARA ALKALI COMPANY
Niagara
ALKALI COMPANY
60 EAST 42nd STREET, NEW YORK, N. Y.
Affiliated with Electro Bleaching Gas Co., Pioneer Manufacturer of Liquid Chlorine

Soap Pay Rolls Up

Pay rolls in the soap manufacturing industries, for Dec., 1938 had an index number of 89.5, as against 88.3 for the previous month, and 89.1 for Dec., 1937. The employment index in the corresponding months were for Dec., 1938, 88.6, an increase over 87.6 for Dec., 1937, and a decrease from the previous month of 88.9.

Hear Coltman Patent Appeal

A hearing will be held before the U. S. Circuit Court of Appeals in Chicago, February 15, on the appeal of Colgate-Palmolive-Peet Company from a decision by Judge Robert Baltzell handed down last Summer finding the Colgate Company to be infringing on a soap spray process patent held by Bertrand W. Coltman. The patent under which C. P. P. operate is the LaMont patent issued in 1927 and successfully defended in a lengthy court action with Lever Brothers Co. The company's processes used in the manufacture of "Super Suds" and "Palmolive Beads" were declared to be an infringement of the Coltman patent. Coltman's first application was filed as far back as 1921. The Colgate Company is now appealing from this decision.



Oil Chemists to Meet

The American Oil Chemists' Society will hold its annual meeting at the Jung Hotel, New Orleans, May 1 and 5.

M M & R Sales Session

Magnus, Mabee & Reynard Inc., perfuming materials suppliers, held their annual sales meeting early last month at their New York offices. Percy C. Magnus, head of the firm, spoke on a note of optimism for business improvement in 1939. Guest speakers included: L. J. LaCava, sales manager, Continental Can Co. whose talk was on the importance of package design in merchandising, and Sidney Weiss of Acorn Agency Inc., who spoke on advertising and sales promotion. Technical papers by members of the MM&R analytical staff were read. The three day session ended with a dinner at the Hotel Astor.

Dubey Joins Dreyer

Alfred E. Dubey, Jr. has recently joined the sales force of P. R. Dreyer Inc., New York, dealers in essential oils and aromatic chemicals. He has had a number of years experience in the field, having spent several years with Ungerer & Co., and the past two years with Firmenich & Co., as vice-president and a director of that concern.

Lever Chief Seriously Ill

Francis D'Arcy, managing director of Lever Brothers & Unilever, London, is in the hospital recovering from a serious operation. He has been compelled to tender his resignation to Premier Chamberlain from the Prime Minister's Panel of Industrialists.

Penn-Drake Booklet

Pennsylvania Refining Co., Butler, Pa., has issued a booklet describing "Penn-drake" white oils and petrolatums. Included are a set of specifications for white oil.

Here is the famous "whale with the white spot" which has been the trade-mark for "Soapine" for years and years, and which was inadvertently credited as the mark for "Pearline" in the January issue of *Soap*. "Pearline" has been off the market for a number of years. Shown here is the latest package design for the "New Soapine." The product is made by Kendall Manufacturing Co., Cambridge, Mass.

THE MOST *Flexible* FILLER YOU HAVE EVER SEEN

So versatile it will fill practically any kind of container with almost any kind of material, the Stokes & Smith Universal Filler, with Gross Weight Scale, comprises four different machines in one single unit. These are:

1. *A gross weight scale with auger feed.*
2. *A volumetric filler measuring material by the volume of the package.*
3. *A volumetric filler measuring material by the turns of the auger, a very precise way for the smaller quantities.*
4. *A packing machine to compress the material into packages.*

Changing from one type of container to another, even from any paste to free-flowing powder, is only a few minutes work.

May we arrange a demonstration for you?

STOKES & SMITH Co
PACKAGING MACHINERY — PAPER BOX MACHINERY
4915 Summerdale Ave., Philadelphia, U. S. A.
British Office: 23, Goswell Road, London, E. C. 1

S & S G-1 Filler

Wants Soap Agency

A firm in San Juan, Puerto Rico, is interested in an agency arrangement for the sale of soaps of American manufacture. Full details may be obtained by writing to the U. S. Bureau of Foreign and Domestic Commerce, Washington, D. C., mentioning file number 8745.

Nassour Bros. Name Agent

Nassour Brothers, Los Angeles soap manufacturers, have appointed Huga Scheiber, Inc., Los Angeles, to handle advertising.

U. S. P. Soft Soap

(*From Page* 22)

It contains no linolenic or isolinolenic acid. Due to its low iodine value and specific arachidic acid content, substitutions by other oils would be quite difficult especially if a test for the percentage of arachidic acid were required. Linseed oil consists mostly of alpha and beta linoleic and alpha isolinolenic acid, relatively small amounts of oleic acid and other fatty acids. The unsaponifiable material in linseed oil is considerably higher assaying approximately 1-1½ per cent. The oil is quite subject to rancidity due to its linoleic and isolinolenic contents.

Coconut oil is of abundant source and easily obtained in the domestic market. The potash soap of this oil has decidedly higher lathering and detergent properties and a small amount admixed with the peanut oil would give a more soluble and better lathering soap. Experience through the years has proven to us that a small amount of coconut oil admixed with other oils has a very marked property of inhibiting subsequent rancidity development in the finished soap, this characteristic property being a function of the percentage of unsaponified oil in the finished soap.

We believe that potassium hydroxide should be used as the sole saponifying agent in the production of soft soap. If sodium hydroxide is to be employed as high as 80 per cent may be used but we prefer that it be eliminated from any proposed specification for the assaying of the percentages of sodium and potassium hydroxide in the analysis of the soap is a costly and tedious determination. We also believe that a potash soap is superior to a soda soap in that in the winter time during extreme low temperatures, the soda soap crystallizes out and makes the finished product leathery and rubbery, whereas a potash soap maintains its normal soft body. We also believe that a potash soap has a greater property of reducing the surface tension of water than a soda soap and that its wetting, emulsifying and deflocculating value is superior to a soda soap.

We offer the following formula:

80 per cent of refined white peanut oil

20 per cent of refined white coconut oil

Saponifying agent—caustic potash

Glycerine—that percentage that is contained in the original oils—more to be added if desired

Free alkali—not in excess of .2 of 1 per cent

Free fatty acid—none

Volatile matter — water, not more than 50 per cent nor less than 45 per cent. (We suggest this change from 52 per cent to 50 per cent so that in the winter time the consistency of the soap will be more comparable to the consistency of the product in the warm weather. We suggest the change to not less than 45 per cent moisture so that the soap in its finished form will not be too firm.)

Besides the usual tests for purity we suggest a test to show a definite percentage of glycerine as an indication that only highly refined vegetable oils are used. We suggest a test for unsaponified and unsaponifiable matter which should not exceed 1 per cent. This latter test would definitely insure the use of refined oils and eliminate the use of fatty acids. It would also insure the use of filtered and purified alkali solutions and also the use of clean iron kettles or crutchers. In making this test the albuminous matter and metallic soaps floating on the water layer between the ether solution and the water should not be discarded or thrown away. In the past our findings on this particular amount of impurities has assayed between .2 to as high as 1 per cent.

We suggest a test for the neutralization number of the split off fatty acids of the soap to assure the proper amount of coconut oil in the formula. We suggest that a color determination on the split off fatty acids be required to assure the buyer that the oils used were highly refined and also to assure a standard color to the finished soap itself. Total alcoholic insoluble matter should not exceed .5 per cent. We suggest that the requirements of the U. S. Army Specifications covering soft soap relative to the solution of soap in distilled water should be made part of the tests for purity.

Summing up, our broad specification is that Soft Soap, U.S.P. should be a potash soap made from 20 per cent coconut oil and 80 per cent peanut oil both purified and refined and of definite color standard, edible oils preferred. The finished soap should contain not more than 50 per cent of water nor less than 45 per cent of water.

Soap made according to the above simple specification should in its final form be of a color comparable to white vaseline practically odorless and of a consistency short, not stringy; firm, not soft, easily scooped out with a spoon or by hand, readily soluble in alcohol or water and clear and clean when ready for use.

We further suggest that due consideration be given to the type of container in which this product is to be packed for shipping. Our experience has shown that tin, iron, wooden and zinc lined containers are unsatisfactory. Glassware, enamelware and iron containers coated with a special synthetic resin are acceptable. Highly satisfactory is glass pottery."

ADD LONGER LIFE TO YOUR PRODUCT'S FRAGRANCE with . . . . . .

DUROFIX

YOUR product derives its distinctive odor quality from the **combined** effect of many aromatic constituents. To retain this quality over a prolonged period of time it is necessary to hold the more volatile of these elements in proper balance so that uniformity of odor effect results. Our laboratories have provided a very effective solution to this problem in the perfection of DUROFIX. This widely used fixative is offered in more than fifty different odor types—one for almost any required fragrance or product . . . including soaps (both liquid and milled), bath salt perfumes, toilet preparations, powders, creams, etc. In application, DUROFIX adds nothing to your product's cost as it involves merely the substitution of 10% or more of low-priced DUROFIX for an equal amount of the costlier perfume base. Nor does it contribute any appreciable odor of its own, its effect being rather to accentuate the fragrance of which it becomes a part. It has its limitations, of course, but in most cases DUROFIX will enhance and prolong the beauty and effectiveness of your product's fragrance far beyond its normal expectancy. We believe it worthy of your investigation and suggest your writing for Bulletin DF-2 which lists and describes DUROFIX in full detail.

DUROFIX mixes readily with all essential oils and aromatic chemicals.

DUROFIX will not discolor, hydrolize or saponify.

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

HAVE YOU TRIED THESE low cost SOAP PERFUMES?

IF NOT, the sooner you do the sooner you'll start saving money on your soap perfumes. Each has been made to sell for $3.50—**or less**—per pound, with a **plus**-value in quality to make them more attractive. Thirteen popular florals and five bouquets are available. All are reliably stable and enduring. All are made to do a good perfuming job at the lowest possible price.

FLORALS

CARNATION No. 9
GARDENIA No. 25
JASMINE No. 21
*JASMINE No. 22
Non-Discoloring
*LAVENDER No. 23
ROSE No. 24
VIOLET No. 10
(PURPLE) LILAC No. 20
(WHITE) LILAC No. 21
*ORANGE BIGARADE No. 5
For Colored Soaps
ORANGE PETAL No. 18
Non-Discoloring
*TRIFOLEUM No. 5
*TRAILING ARBUTUS No. 10

BOUQUETS

FOUGERE No. 11
*KASMA No. 5
*PALM No. 5
BOUQUET No. 122
*SANDALWOOD No. 5

*SUITABLE FOR USE IN LIQUID SOAPS

$3.50 per lb. ...or less!

Chicago Committee Chairmen

A. A. Bafetti, newly elected president of the Chicago Perfumery, Soap and Extract Association announces the appointment of the following committee chairmen for 1939: Executive—A. A. Bafetti; Entertainment — Carl M. Black and W. R. Nay co-chairmen; Golf—J. A. Gauer; Publicity — W. H. Schutte; Legislative—D. M. Clark; Bowling —Harry Spohr; Membership—R. F. McClellan; Luncheon—M. B. Vance. At the meeting scheduled for February 7th the new chairmen will report on their plans for this year.

Essential Oil Ass'n Elects

The Essential Oil Association of U. S. A., New York, at its annual meeting January 13th, re-elected Harry C. Ryland, H. C. Ryland, Inc., as president. Other officers, also re-elected, were vice-president, Charles Fishbeck, P. R. Dreyer Inc., and secretary-treasurer, Robert B. Mangus, Magnus, Mabee and Reynard, Inc. The executive committee is composed of V. H. Fischer, Dodge and Olcott Co., and William Schilling, Jr., Norda Essential Oil & Chemical Co.

Research Report on Soap

Bureau of Labor Statistics, of the U. S. Department of Labor, has recently published a research report on soap; covering marketing, merchandising and other factors which affect retail prices and specifications to be used as a basis for the collection of retail prices. Copies may be had through the U. S. Department of Labor.

Chemical Industries Sold

Chemical Industries and *Chemical Industries Guide Book*, have been merged with the group of publications which include *Rock Products, Inland Printer, The American Hairdresser*, etc. *Chemical Industries* and its subsidiary publications will continue as a separate unit of the Tradepress Publishing Corp., New York. William S. Haynes will continue as editor, and William George as advertising manager.

DU PONT

TETRA SODIUM PYRO PHOSPHATE

FOR SOAPS AND CLEANING COMPOUNDS

DU PONT "PYRO" possesses several outstanding characteristics which may suggest applications in your products.

It is readily soluble, odorless, aids detergency and cleansing, improves emulsification, sudsing and rinsing.

DU PONT "PYRO" is packed in 400 pound barrels and 100 pound bags available for prompt shipment.

We invite your inquiry on "PYRO" and other Du Pont chemicals for the soap industry.

Let us also quote you on—

Tri Sodium Phosphate
Sodium Metasilicate
Sodium Silicate
Caustic Soda
Soda Ash

E. I. DU PONT DE NEMOURS & COMPANY, INC.

DU PONT

GRASSELLI CHEMICALS DEPARTMENT
WILMINGTON, DELAWARE

Birmingham • Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit • Los Angeles • Milwaukee
New Haven • New Orleans • New York • Philadelphia • Pittsburgh • Rensselaer • San Francisco • St. Louis • St. Paul
Represented in Canada by CANADIAN INDUSTRIES, LTD., General Chemicals Division, Montreal and Toronto

Contracts Awarded

Washington Polish Bid

N. Brittingham & Sons, Philadelphia, were low bidders on 6,000 cans of cleanser at 2.3c, in a recent opening by the U. S. Marine Corps at Washington, D. C. On 288 qts. furniture polish, R. M. Hollingshead Corp., Camden, N. J. was low bidder at 12.8c.

Panama Canal Bids

Brooklyn Ass'n for Improving the Conditions of the Poor submitted the low bid of $336.96 for supplying 1,440 cotton mops in a recent opening at Washington, D. C. for the Panama Canal. On 9,000 lbs. of salt-water soap, Newell-Gutradt Co., San Francisco was low with a bid of $247.50, and on 10,000 lbs. of soap powder, Armour & Co., Chicago, were low with a bid of $298.

File Floor Sealer Bids

Sherwin-Williams Co., Washington, was low bidder on 200 gals. floor sealer at 73c in a recent treasury procurement supply bid opening at Des Moines.

Marine Corps Wax Bid

Jas. Good, Inc., Philadelphia, submitted the low bid of 8.9c on 450 lbs. floor wax in a recent opening by the U. S. Marine Corps at Washington, D. C.

Washington Procurement Bid

Gillam Soap Works, Ft. Worth, Tex., was low bidder on 1,584 lbs. of laundry soap at 6.5c in a recent opening of Treasury Procurement Bids at Washington. Murphy Products Co., Washington, bid low on 150 gals. disinfectant at 19.7c.

Memorial to Elon Hooker

Hooker Electrochemical Co., Niagara Falls, N. Y., has recently published a beautifully bound book, in memory of its founder and president, the late Elon Huntington Hooker. The book covers the highlights and outstanding achievements throughout his life, and is filled with tributes from leaders in the business and industrial field.

Complete Soap Census Report

Detailed statistics on production of soaps during 1937 as gathered in the most recent census report of the soap industry were made public January 23, by the U. S. Department of Census, supplementing the first report issued late in December, 1938. The figures for 1937 show the following comparison with 1935 totals:

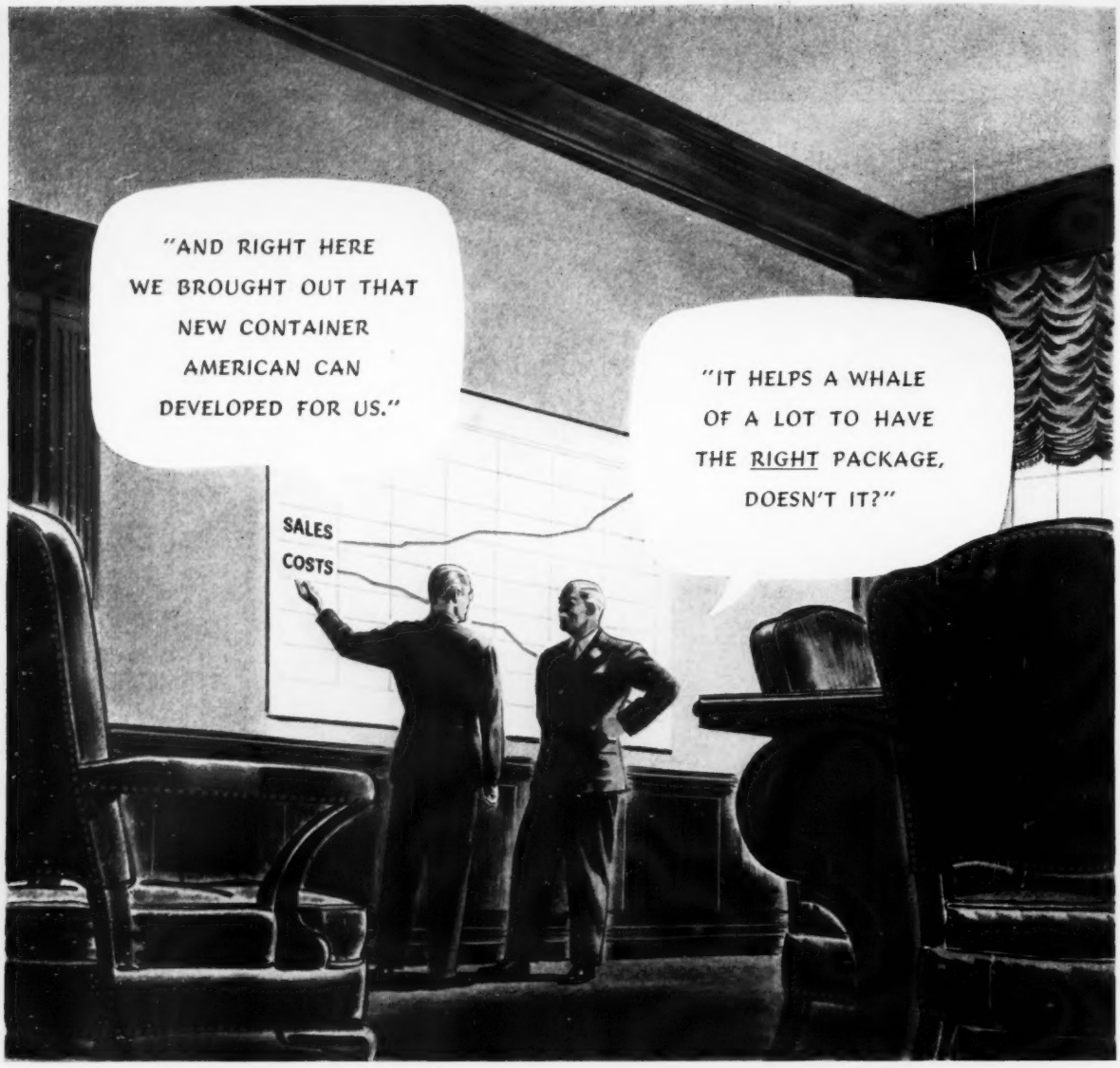
Products, by Kind, Quantity, and Value: 1937 and 1935

	1937	1935
1. Soap industry, all products, total value	$301,291,547	$239,152,130
2. Soap	$257,877,539	$211,004,391
3. Other products (not normally belonging to the industry)	$43,414,008	$28,147,739
4. Soap made as a secondary product in other industries, value	$13,699,695	$12,804,189
Soap, aggregate value (sum of 2 and 4)	$271,577,234	$223,808,580
Bar soaps:		
Toilet soaps:		
Pounds	360,610,753	352,976,104
Value	$62,805,065	$53,324,747
Laundry soaps:		
White:		
Pounds	488,979,981	420,524,270
Value	$28,192,491	$19,937,559
Yellow:*		
Pounds	633,441,319	713,540,726
Value	$33,195,616	$31,402,714
Granulated, powdered, and sprayed soaps:		
Pounds	743,194,783	503,117,738
Value	$68,408,836	$45,283,702
Soap chips and flakes:		
Packaged:		
Pounds	274,275,994	307,274,876
Value	$28,207,372	$25,615,958
Bulk:		
Pounds	116,179,494	151,659,892
Value	$9,797,688	$10,713,357
Washing powders:		
Packaged:		
Pounds	146,924,947	132,681,612
Value	$6,582,021	$5,535,464
Bulk:		
Pounds	83,504,344	86,366,692
Value	$2,481,397	$2,210,182
Cleansers and scouring powders containing soap: †		
Packaged:		
Pounds	157,039,241	196,233,597
Value	$6,254,838	$6,186,478
Bulk:		
Pounds	21,307,024	37,353,855
Value	$917,323	$1,501,227
Shaving soaps, total value	$9,729,538	$9,218,385
Stick powder, and cake, total value	$1,954,272	$2,273,911
Quantity reported:		
Pounds	5,075,521	6,152,233
Value	$1,954,272	$2,119,581
Quantity not reported, value	—	$154,330
Cream (soap base), total value	$7,775,266	$6,944,474
Quantity reported:		
Pounds	9,555,764	6,716,026
Value	$7,775,266	$5,695,920
Quantity not reported, value	—	$1,248,554
Liquid soaps, not including packaged shampoos, total value	$2,398,086	$1,972,821
Quantity reported:		
Pounds	29,224,168	22,592,738
Value	$2,398,086	$1,523,154
Quantity not reported, value	—	$449,667

(*Turn to Page* 53)

* Consumption of rosin used in the manufacture of soap in 1937 amounted to 75,450,320 pounds. No data available for 1935.

† Produced by establishments classified in the Soap industry only.


"AND RIGHT HERE WE BROUGHT OUT THAT NEW CONTAINER AMERICAN CAN DEVELOPED FOR US."
"IT HELPS A WHALE OF A LOT TO HAVE THE RIGHT PACKAGE, DOESN'T IT?"
SALES
COSTS

American Can's research laboratories, and engineering and development staffs, are searching constantly for ways to help increase sales of a wide variety of products . . . through better quality-protection . . . through greater convenience and popular appeal. We may have ideas *you* can use to stimulate sales. Write us your problems today.

CANCO AMERICAN CAN COMPANY, 230 PARK AVENUE, NEW YORK, N. Y.

New Trade Marks

The following trade-marks were published in the January issue of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

LUCKY-WHITE — This with Lucky in relief, describing shoe cleaner. Filed by Lucky Chemical Laboratory, Kearney, N. J., Oct. 21, 1938. Claims use since Aug. 4, 1934.

RAINSOFT—This in solid letters describing water softener. Filed by Sears Roebuck & Co., Chicago, Oct. 2, 1937. Claims use since June 1, 1936.

HI-AID—This in solid letters mounted upon contrasting colored shield describing disinfectant, water softeners, etc. Filed by Hiaid Products Co., Milwaukee. Claims use since June 1, 1938.

SNOWTEX—This in script letters describing laundry bleach. Filed by Snowtex Chemical Co., Melrose, Mass., Sept. 2, 1938. Claims use since Aug. 19, 1938.

MEDLEX—This in solid letters describing shampoo. Filed by Industrial Soap Co., St. Louis, Oct. 3, 1938. Claims use since Mar. 1, 1938.

MICRONOX—This in stenciled letters describing germicide, deodorant, and insecticide. Filed by Mathieson Alkali Works, New York, Oct. 18, 1938. Claims use since Oct. 3, 1938.

DART — This in solid letters with illustrating arrow describing toilet bowl deodorant, and dentifrices. Filed by S. H. Kress and Co., New York, Oct. 29, 1938. Claims use since Jan. 20, 1938.

FYTER—This in stenciled letters describing insecticides. Filed by The Selig Co., Atlanta, Nov. 1, 1938. Claims use since June 18, 1938.

OYEZ — This in solid letters above a triangle enclosing a circle, describing wall paper remover, and cleaner. Filed by Oyez Chemical Co., New York, Nov. 2, 1938. Claims use since Sept. 8, 1938.

IVANITE—This in solid letters describing a cleaning paste. Filed by Ivano, Inc., Chicago, Sept. 9, 1938. Claims use since July 14, 1938.

BLUE RIBBON — This in solid letters above a bow-ribbon describing polish and cleaners. Filed by International Metal Polish Co., Indianapolis, Apr. 1, 1938. Claims use on silver polish since Feb., 1910, and on other products at later dates.

ELECTRENE—This in solid letters describing cleaning compound. Filed by Electrene Products Co., Council Bluffs, Iowa. Claims use since Aug. 1, 1934.

BONTELLA CREME D'ELITE — This in outlined letters describing soap. Filed by Ogden Soap Co., Chicago, Aug. 30, 1938. Claims use since June, 1920.

STANEAWAY—This in solid letters describing spot remover. Filed by Thomas Fuller Torrey, Lynchburg, Va., Sept. 7, 1938. Claims use since Aug. 26, 1938.

PHILIP J. ONKEY—This in script describing polish. Filed by Oriental Rouge Co., Bridgeport, Conn., Oct. 27, 1938. Claims use since Oct. 18, 1938.

ESCOLIN — This in stenciled letters describing alkaline detergent. Filed by The Cowles Detergent Co., Cleveland, Oct. 29, 1938. Claims use since Oct. 1, 1938.

DOTS—This in shaded letters describing antiseptic. Filed by Dorothy A. Gray, Dawnwood, Amenia, New York, Sept. 12, 1938. Claims use since Aug. 28, 1938.

JAPELLENT — This in shaded letters describing insecticides. Filed by Doggett-Pfeil Co., Springfield, N. J., Oct. 24, 1938. Claims use since July 26, 1937.

GENICIDE — This in stenciled letters describing insecticides. Filed by General Chemical Co., New York, Nov. 7, 1938. Claims use since Oct. 14, 1938.

ECLAT—This in script letters in an oval on soap wrapper, describing toilet soap. Filed by Colgate-Palmolive-Peet Co., Jersey City, Nov. 2, 1938. Claims use since Dec. 11, 1935.

TANNERIZE—This in script letters describing cleaning preparation. Filed by Morris L. Tanner, Chicago, Nov. 8, 1938. Claims use since 1935.

LABORATORY CALGONITE—This in script letters describing detergent for cleaning glassware. Filed by Calgon, Inc., Pittsburgh, Nov. 12, 1938. Claims use since Oct. 1, 1938.

COPAR — This in solid letters describing insecticides and fungicides. Filed by General Chemical Co., New York, Oct. 28, 1938. Claims use since Sept. 15, 1938.

QUINTARGOL — This in solid letters describing vaginal antiseptic. Filed by Inland Laboratories, Indianapolis, Nov. 3, 1938. Claims use since Oct. 27, 1938.

NITROCIDE—This in solid letters together with word Farmrite within diamond-shaped design, describing insecticides. Filed by Central Chemical Corp. of Maryland, Hagerstown, Md., Nov. 7, 1938. Claims use since Jan. 20, 1938.

AQUA-SAN — This in stenciled letters describing deodorant and disinfectant. Filed by Mathieson Alkali Works, New York, Nov. 12, 1938. Claims use since Mar. 17, 1938.

LUSTRA-SAN—This in stenciled letters describing deodorant, insecticide, and germicide. Filed by Mathieson Alkali Works, New York, Nov. 14, 1938. Claims use since Oct. 19, 1938.

SOPANOX — This in solid letters describing chemical compounds employed as preventers of rancidity in soap and vegetable oils. Filed by Monsanto Chemical Co., St. Louis, Nov. 15, 1938. Claims use since Nov. 2, 1938.

MARVOFECTANT — This in reverse plate, superimposed on word cleaner, describing cleaning com-

WHEN YOUR SALES CURVE SAYS

"HELP THE PRODUCT AND YOU'LL HELP ME"

LOOK INTO TSPP WARNER

There's sales stimulus for many products — perhaps yours — in the newest of the phosphates — **Tetra Sodium Pyrophosphate Warner.**

TSPP Warner puts more sales appeal into household soaps, powders and cleansers, with greater cleaning power and the blandness of mild alkalinity. For your commercial customers, who process or manufacture with detergents, TSPP Warner adds weight to **your** sales argument. It gives them more thorough results more easily arrived at, plus protection and improvement for the products **they** sell. And — with TSPP Warner more concentrated in active detergent power than TSP — you'll find production costs with many formulas no higher. TSPP Warner is available in convenient forms — crystals, quick-dissolving, porous anhydrous granules and powder.

Tetra Sodium Pyrophosphate Warner has all of the properties of Tri Sodium Phosphate — except in those few cases where higher alkalinity is required. TSPP Warner gives superior results as a Detergent, Soap Aid, Water Softener, Emulsifier, Deflocculant, Clarifying Agent and Wetting Agent. In mixtures to specifications with TSP, Sodium Metasilicate and Soda Ash, TSPP Warner considerably increases their efficiency.

Bland, mildly alkaline TSPP Warner is superior in calcium sequestering power, is manufactured under conditions of constant control and has no Metaphosphate content and only traces of Orthophosphate.

We will welcome an opportunity to cooperate with you in determining the possible advantages of TSPP Warner in your products. Your inquiry for technical data and consultation, samples and quotations, will receive immediate response and confidential handling. No obligation, of course.

OTHER WARNER DETERGENTS, SANITARY CHEMICALS AND SOLVENTS

CARBON BISULFIDE · CARBON TETRACHLORIDE · LIQUID CHLORINE
POTASH CAUSTIC · SNOWHITE · SODIUM HYPOCHLORITE SOLUTION
TRI SODIUM PHOSPHATE · TRICHLORETHYLENE

CHEMICAL **WARNER** COMPANY

DIVISION OF
WESTVACO CHLORINE PRODUCTS CORPORATION

pound. Filed by Jones Manufacturing Co., Richmond, Va., Aug. 18, 1938. Claims use since June 27, 1938.

AID-O — This in solid letters describing housecleaner. Filed by A. Krasne, Inc., New York, July 20, 1938. Claims use since March 31, 1938.

CHROMIZE—This in solid letters describing cleaning compound. Filed by Pierpont & Grow Products, Muncie, Ind., Oct. 18, 1938. Claims use since Aug. 1, 1938.

LIBEX — This in solid letters describing insecticides. Filed by Liberty Laboratories Inc., Boston, Dec. 28, 1937. Claims use since Oct. 25, 1937.

PARKER'S 3-NITE — This in solid letters with Parkers above 3-Nite describing insecticides. Filed by Susan Overstreet Parker, Jacksonville, Fla. Claims use since Nov. 17, 1937.

KORA-KAYE — This in script mounted upon colored label describing shampoo. Filed by Kora-Kaye Co., Astoria, Long Island, N. Y., Oct. 10, 1938. Claims use since Jan. 6, 1938.

BEL-JO—This in solid letters describing laundry starch. Filed by A. E. Staley Manufacturing Co., Decatur, Ill., Oct. 17, 1938. Claims use since Sept. 16, 1938.

FOLLICOL—This in solid letters mounted upon black background describing shampoos and hair tonics. Filed by Asco Chemical Co., New York, Nov. 23, 1938. Claims use since Mar. 15, 1938.

M.D. — This in solid letters with portrait of nurse between describing antiseptic. Filed by Stanley Laboratories Inc., Portland, Oregon, Oct. 10, 1938. Claims use since July 5, 1938.

4-CIDE—This in outline letters describing insecticides. Filed by Durham Chemical Co., New York, Nov. 29, 1938. Claims use since Nov. 10, 1938.

CAS-O-LAN—This in solid letters describing shampoo. Filed by Halgar, Inc., Chicago, Dec. 10, 1938. Claims use since Nov. 20, 1938.

DN-DUST — This in solid letters describing insecticidal compositions. Filed by Io-Dow Chemical Co., Long Beach, Calif., Dec. 12, 1938. Claims use since Mar. 24, 1938.

CHERRY-WHITE—This in solid letters, cherry above white, both mounted on a triangle from which is suspended a shoe in a circle, describing shoe cleaner. Filed by Paul Cimino, Wilkes-Barre, Oct. 3, 1938. Claims use since Jan. 1, 1937.

TRICO — This in solid letters describing glass cleaner. Filed by Trico Products Corp., Buffalo, Dec. 2, 1938. Claims use since Nov. 15, 1938.

AMPOLITE — This in stenciled letters describing cleanser. Filed by Diversey Corp., Chicago, Dec. 3, 1938. Claims use since Sept. 15, 1924.

PYROCIDE—This in solid letters describing insecticides. Filed by McLaughlin Gormley King Co., Minneapolis, Oct. 21, 1938. Claims use since Aug. 1, 1924.

Trade Marks Granted

363,038. Dentifrices. Martin W. Pretorius, Burbank, Calif. Filed January 11, 1937. Serial No. 387,678. Published September 20, 1938. Class 6.

363,061. Germicides. Dayton Laboratories, Dayton, Ohio. Filed December 23, 1937. Serial No. 401,179. Published September 20, 1938. Class 6.

363,100. Shampooing Liquid. Nawa Co., Washington, D. C. Filed May 17, 1938. Serial No. 406,417. Published September 27, 1938. Class 6.

363,109. Soap. James Brown, Mount Vernon, Ohio. Filed June 2, 1938. Serial No. 407,004. Published October 4, 1938. Class 4.

363,122. Moth Exterminator. Evans Manufacturing Co., Cleveland. Filed June 18, 1938. Serial No. 407,628. Published September 27, 1938. Class 6.

363,132. Weed Killer. Standard Chemical Products, Inc., Hoboken, N. J. Filed June 28, 1938. Serial No. 407,994. Published September 20, 1938. Class 6.

363,134. Skin Cleansing Aid. Glov-Kote Co., Chicago. Filed June 29, 1938. Serial No. 408,032. Published September 20, 1938. Class 6.

363,141. Soap. Mary Scott Rowland, Ltd., New York. Filed July 5, 1938. Serial No. 408,208. Published October 4, 1938. Class 4.

363,190. Cleaning Preparation. Stanlane Co., Chicago. Filed July 25, 1938. Serial No. 408,905. Published October 4, 1938. Class 4.

363,227. Insecticides. Samuel A. Halaby, Rochester, N. Y. Filed August 18, 1938. Serial No. 409,734. Published October 4, 1938. Class 6.

363,286. Floor Polish. J. R. Watkins Co., Winona, Minn. Filed May 21, 1938. Serial No. 406,610. Published October 11, 1938. Class 16.

363,353. General Household Cleaner. Etsul Synthetic Products, Detroit. Filed August 15, 1938. Serial No. 409,625. Published October 11, 1938. Class 4.

363,359. Soap. Piggly Wiggly Corp., Cincinnati. Filed August 17, 1938. Serial No. 409,694. Published October 11, 1938. Class 4.

363,367. Silver Polish. E. Keller & Sons, Allentown, Pa. Filed August 19, 1938. Serial No. 409,771. Published October 11, 1938. Class 4.

363,427. Soap, Cleaning and Scouring Preparations. E. I. du Pont de Nemours & Co., Wilmington. Filed March 16, 1938. Serial No. 404,110. Published Oct. 18, 1938. Class 4.

363,437. Polishes, Paste Wax, Liquid Wax. Cardinal Laboratories, Chicago. Filed June 11, 1938. Serial No. 407,357. Published Oct. 18, 1938. Class 16.

363,441. Polishes and Waxes. Henschel Supply Co., New York. Filed June 20, 1938. Serial No. 407,648. Published Oct. 18, 1938. Class 16.

363,479. Liquid and Powdered Detergents. Emery Industries, Cincinnati. Filed Aug. 11, 1938. Serial No. 409,463. Published Oct. 18, 1938. Class 4.

They

ALL LOOK ALIKE ON PAPER;

but . . . real merit is PROVEN by the way consumers order and reorder.

By handling Clifton products exclusively wide-awake jobbers consistently increase their sales and profits. You can do likewise.

Details for the asking on the complete line of soap bases, dispensers, deodorant cakes, disinfectants, waxes, polishes and kindred products. Inquire today from Clifton Chemical Co., 246 Front St., New York.

CLIFTON

Raw Material Markets

(As of February 1, 1939)

NEW YORK — The market for raw materials for soap and sanitary chemicals remained very steady for the period just ended. There were few changes in quotations, and these were downward. The oil and fat list exhibited a steady trend, with inquiries reported on the increase. The most activity in the past period in the perfuming materials group was probably centered in the quotations of citronella oil, Java, which has reversed its relation to Ceylon, and hit a new low.

CHEMICALS

Cresylic Acid

A fair inquiry was uncovered in the cresylic acid market, but actual business was not large. Major consumers were following a conservative purchasing policy in most instances. Current quotations were steady. Exports of cresylic acid from the United Kingdom during the first ten months of 1938 dropped sharply from the amounts exported during the same period in 1937.

Lead Arsenate

Price schedules were renewed on the same basis for lead arsenate and paris green as sellers made final preparation for the coming season. Fair sized withdrawals were taking place for the account of agricultural insecticide manufacturers, a seasonal development in preparation for Spring.

Soda Silicate

Transactions in the market continued moderately active with substantial shipments mentioned as moving for the account of the soap trade, among others.

OILS AND FATS

Coconut Oil

Quiet conditions continue to prevail in the local market for crude oil, and the situation lacked features of interest. The tone remained steady, however, with quotations remaining at previous levels. Few inquiries were received, the lack of buying interest being attributed to recent bearish developments in the market for other commodities.

Cottonseed Oil

Local and Southern markets were quiet, the price changes from day to day being moderate. Reports were heard to the effect that mills in some sections were still closing down and withdrawing from the market owing to the low prices prevailing for crude oil.

Olive Oil

The olive oil market retained a steady tone with prices unchanged on denatured oil. Foots received a fair demand in a jobbing way.

Palm Oil

Prices were steady with shipments moving into the hands of the consumer in routine fashion. Leading producers were reported to be sold up for the first six months of the year.

Tallow

This market remained steady with deferred shipment the more attractive. Government forecasts predict a large cattle supply in the near future. Increased supply of tallow and grease will probably mean lower price levels in that market.

PERFUMING MATERIALS

Citronella Oil

Java and Ceylon oils are maintaining their reversal of price levels, with a very easy Java market the past few weeks, due to overproduction. The current range is 32 to 33c on Ceylon, and a further reduction of 2c, made the range 27 to 28c on Java, the lowest point in years. Reports say that further production of Java is being curtailed due to the low price level.

Wilson & Bennett Merges

Wilson & Bennett Manufacturing Co., Chicago steel container firm, is reported to have just merged with Inland Steel Co., one of the largest independent steel producing companies. Inland's principal plant is at Indiana Harbor. L. E. Block is chairman of the board and P. D. Block is president of the steel company. Wilson & Bennett, in addition to its Chicago plant, operates other plants in Jersey City and New Orleans. Stevens A. Bennett is chairman of the board and Harry M. Gustafson is president.

Soap Production, By Kind, Quantity and Value; 1937 and 1935

(*Continued from Page 47*)

	1937	1935
Soap stock or soap base, made for sale as such:†		
Pounds†	4,521,988	3,665,376
Value†	$346,947	$270,406
Bar cleansers containing soap:		
Pounds	5,446,732	9,882,633
Value	$410,544	$471,884
Hand pastes or mechanics' pastes:		
Pounds	16,930,579	14,174,407
Value	$1,062,295	$792,004
Textile soaps, including potash and foots soaps for textile manufacture:		
Pounds	60,016,699	70,052,236
Value	$5,309,816	$5,350,238
Potash soaps, other than textile and liquid:		
Pounds	25,071,652	20,803,830
Value	$2,156,599	$1,483,537
Soap not reported according to classifications above, value	$3,320,762	$2,537,917

CRESYLIC ACID — FORMALDEHYDE

AROMATICS

Phenyl Ethyl Alcohol	Phenyl Ethyl Acetate
Methyl Acetophenone	Amyl Cinnamic Aldehyde
Acetophenone	Benzyl Acetate
Geranyl Acetate	Benzophenone
Yara Yara	Nerolin

For Soaps, Perfumes, Cosmetics, etc.

ASSOCIATED COMPANIES

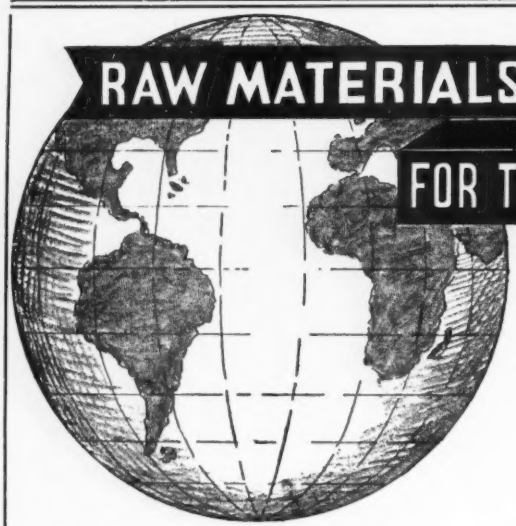
KAY-FRIES CHEMICALS, INC. NEW YORK, N. Y.

CHARLES TENNANT & CO. (CANADA) LTD TORONTO, CANADA

AMERICAN-BRITISH CHEMICAL SUPPLIES, Inc.

180 MADISON AVE., NEW YORK

RAW MATERIALS FOR THE SOAP INDUSTRY FROM ALL PARTS OF THE WORLD



OILS FATS
CHEMICALS
FATTY ACIDS

1838—1939

WHITE MINERAL OILS
PETROLATUMS
Various Grades

Castor Oil	Olive Oil Foots	Fatty Acids	Tallow	Modified Soda
Cocoanut Oil	Peanut Oil	Lard Oils	Grease	Silicate Soda
Corn Oil	Perilla Oil	Neatsfoot Oil	Lanolin	Metasilicate
Cottonseed Oil	Rapeseed Oil	Oleo Stearine	Caustic Soda	Tri Sodium Phosphate
Palm Oil	Sesame Oil	Stearic Acid	Soda Ash	Di Sodium Phosphate
Palm Kernel Oil	Soya Bean Oil	White Olein	Caustic Potash	Chlorphyll
Olive Oil	Teaseed Oil		Carbonate Potash	"CEREPS" Superfatting Agent
			Sal Soda	

WELCH, HOLME & CLARK CO., Inc.

563 GREENWICH STREET ESTABLISHED 1838 NEW YORK CITY

Raw Material Prices

(As of February 1, 1939)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .05¾	$ .06¼
Acid, Boric, bbls., 99½%	ton	106.00	138.00
Cresylic, drums	gal.	.63	.64
Low boiling grade	gal.	.69	.71
Muriatic, C. P., carboys	lb.	.06½	.08
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, bbls.	lb.	.16	.18
Anhydrous, bbls.	lb.	.17½	.19
Alcohol, Ethyl, U.S.P., bbls.	gal.	4.56½	4.61½
Complete Denat., SD 1, drums, ex.	gal.	.31	.33
Alum. Potash lump	lb.	.036	.039
Ammonia Water, 26°, drums	lb.	.02	.02¼
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bentonite 1, works	ton	—	16.00
Bentonite 2, works	ton	—	11.00
Bleaching Powder, drums	100 lb.	2.25	3.35
Borax, pd., cryst., bbls., kegs	ton	58.00	74.00
Carbon Tetrachloride, car lots	gal.	.66½	.83
L. C. L.	gal.	.73	1.17
Caustic, see Soda Caustic. Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U.S.P., drums	lb.	.10	.10½
Creosote Oil	gal.	.13½	.14½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls.	lb.	.05¾	.06¼
Fullers Earth	ton	10.00	30.00
Glycerine, C. P., drums	lb.	.12½	.13
Dynamite, drums	lb.	—	Nom.
Saponification, drums	lb.	.08½	.08¾
Soap, lye drums	lb.	.07½	.07¾
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	—	2.45
Mercury Bichloride, kegs.	lb.	.99	1.13
Naphthalene, ref. flakes, bbls.	lb.	.05¾	.06
Nitrobenzene (Mirbane) drums	lb.	.08	.09
Paradichlorbenzene, bbls., kegs	lb.	.12½	.15½
Petrolatum, bbls. (as to color)	lb.	.02⅝	.03⅞
Phenol (Carbolic Acid), drums	lb.	.14½	.15½
Pine Oils, bbls.	gal.	.46	.59
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.02⅞	.03½
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03½
Pumice Stone, powder	100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	4.75	6.40
Grade K to N	bbl.	6.42	6.95
Grade WG to X	bbl.	7.25	7.90
Wood	bbl.	4.00	5.50
Rotten Stone, pwd. bbls.	lb.	.01¾	.02½
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04½
Olive Castile, bars	lb.	.22	.26
Olive Castile, powder	lb.	.28	.33
Powdered White, Neutral	lb.	.20	.22
Olive Oil Foot, bars, 68-70%	lb.	.09	.09½
Green, U.S.P.	lb.	.11	.13½
Tallow Chips, 88%	lb.	.07½	.08½
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.08	1.35
Car lots, in bulk	100 lb.	—	.90
Soda Caustic, cont., wks., solid	100 lb.	—	2.30
Flake	100 lb.	—	2.70
Liquid, tanks, 47-49%	100 lb.	—	1.95
Soda Sal., bbls.	100 lb.	$1.10	$1.30
Sodium Chloride (Salt)	ton	15.00	15.60
Sodium Fluoride, bbls.	lb.	.07½	.08¾
Sodium Hydrosulfite, bbls.	lb.	.16	.17
Sodium Metasilicate, ground	100 lb.	3.15	3.40
Crystalline	100 lb.	—	2.90
Sodium Pyrophosphate	100 lb.	5.10	5.55
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.21	.28
Triethanolamine	lb.	.20	.22
Trisodium Phosphate, bags, bbls.	lb.	.02	.03
Zinc Oxide, lead free	lb.	.06½	.07¾

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.06½	Nom.
Castor, No. 1, bbls.	lb.	.09¾	.10½
No. 3, bbls.	lb.	.09¼	.10
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.03⅛	—
Tanks, Pacific Coast, futures	lb.	.02⅝	.02¾
Copra, bulk, coast	lb.	.0185	Nom.
Corn, tanks, mills	lb.	.06⅛	.06¼
Cottonseed, crude, tanks, mill	lb.	.05¾	.05⅞
PSY, futures	lb.	.07	.07¼
Fatty Acids,			
Corn Oil, tanks	lb.	.08	.09
Coconut Oil, Tanks	lb.	.08¼	.08½
Cotton Oil, tanks	lb.	.07¼	.07½
Settled soap stock	lb.	.03	.03⅛
Boiled soap stock, 65%	lb.	.04	.04⅛
Foots, 50%	lb.	.01⅜	.01⅝
Linseed Oil	lb.	.11	.11½
Red Oil, bbls., dist. or sapon.	lb.	.07⅜	.08⅛
Tanks	lb.	.06½	.07½
Stearic Acid,			
Double pressed	lb.	.10½	.11½
Triple pressed	lb.	.13¼	.14¼
Greases, choice white bbls.	lb.	.05¾	.06
Yellow	lb.	.04⅞	.05
Lard, city	lb.	.07¼	.07½
Linseed, raw, bbls.	lb.	.0850	.0870
Tanks, raw	lb.	.0790	.0810
Boiled, 5 bbl. lots	lb.	.0930	.0950
Olive, denatured, bbls., N. Y.	gal.	.92	.95
Foots, bbls., N. Y.	lb.	.07⅛	.07¼
Palm, shipment	lb.	.03	—
Palm Kernel, shipment	lb.	.0340	Nom.
Sesame Oil, dms.	lb.	.10½	Nom.
Soya Bean, domestic tanks, crude	lb.	—	.05½
Stearine, oleo, bbls.	lb.	.06¼	.06¾
Tallow, special, f.o.b. plant	lb.	.05¼	—
City, ex. loose, f.o.b. plant	lb.	.05⅜	—
Teaseed Oil, crude	lb.	.09	Nom.
Whale, refined	lb.	.0770	.0830

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(As of February 1, 1939)

Essential Oils

Almond, Bitter, U.S.P.	lb.	$2.25	$2.30
Bitter, F. F. P. A.	lb.	2.40	2.45
Sweet, cans	lb.	.62	.63
Anise, cans, U.S.P.	lb.	.70	.75
Bay tins	lb.	1.20	1.25
Bergamot, coppers	lb.	3.65	3.85
Artificial	lb.	1.25	1.30
Birch Tar, rect. tins	lb.	.60	.65
Crude, tins	lb.	.16	.17
Bois de Rose, Brazilian	lb.	1.55	1.60
Cayenne	lb.	1.50	1.75
Cade, cans	lb.	.42	.45
Cajeput, native, tins	lb.	.42	.45
Calamus, tins	lb.	3.60	4.25
Camphor, Sassy, drums	lb.	.27	Nom.
White, drums	lb.	.27	Nom.
Cananga, native, tins	lb.	1.25	1.30
Rectified, tins	lb.	1.80	1.85
Caraway Seed	lb.	1.80	1.85
Cassia, Redistilled, U.S.P.	lb.	.95	1.00
Cedar Leaf, tins	lb.	.63	.68
Cedar Wood, light, drums	lb.	.28	.30
Citronella, Java, drums	lb.	.27	.28
Citronella, Ceylon, drums	lb.	.32	.33
Clove, U.S.P., tins	lb.	.98	—
Eucalyptus, Austl., U.S.P., cans	lb.	.35	.37
Fennel, U.S.P., tins	lb.	1.10	1.15
Geranium, African, cans	lb.	2.85	3.50
Bourbon, tins	lb.	2.35	2.85
Turkish	lb.	1.90	2.00
Hemlock, tins	lb.	.60	.65
Lavender, U.S.P., cans	lb.	2.00	4.75
Spike, Spanish, cans	lb.	1.05	1.10
Lemon, Ital., U.S.P.	lb.	3.10	4.00
Cal.	lb.	2.50	—
Lemongrass, native, cans	lb.	.31½	.32
Linaloe, Mex., cases	lb.	1.25	1.30
Nutmeg, U.S.P., tins	lb.	1.20	1.25
Orange, Sweet, W. Ind., tins	lb.	1.75	1.85
Italian cop	lb.	2.25	3.25
Distilled	lb.	—	.50
California	lb.	—	.75
Origanum, cans, tech	lb.	.90	1.60
Patchouli	lb.	3.75	6.50
Pennyroyal, dom.	lb.	2.10	2.15
Imported	lb.	1.90	2.00
Peppermint, nat., cans	lb.	2.15	2.45
Redis., U.S.P., cans	lb.	2.55	2.80
Petitgrain, S. A., tins	lb.	.80	.85
Pine Needle, Siberian	lb.	.95	1.00
Rosemary, Spanish, tins	lb.	.56	.75
drums	lb.	.51	.70
Sandalwood, E. Ind., U.S.P.	lb.	4.75	4.80
Sassafras, U.S.P.	lb.	.90	1.00
Artificial, drums	lb.	.36	.37
Spearmint, U.S.P.	lb.	1.70	1.75
Thyme, red, U.S.P.	lb.	.85	1.25
White, U.S.P.	lb.	.85	1.45
Vetivert, Bourbon	lb.	3.50	15.00
Ylang Ylang, Bourbon	lb.	3.00	5.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.30	$1.45
Amyl Cinnamic Aldehyde	lb.	2.00	2.25
Anethol	lb.	1.00	1.05
Benzaldehyde, tech.	lb.	.60	.70
U. S. P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.40	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.60	1.65
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	2.75	4.65
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.55	.57
Eugenol, U.S.P.	lb.	1.70	2.15
Geraniol, Domestic	lb.	.67	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	1.80	2.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	oz.	2.00	2.13
Ionone	lb.	1.30	4.05
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	2.10	6.30
Linalyl Acetate	lb.	1.35	2.25
Menthol	lb.	3.00	3.35
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.37
Musk Ambrette	lb.	3.25	3.65
Ketone	lb.	3.40	3.80
Xylene	lb.	1.00	1.25
Phenylactaldehyde	lb.	2.25	3.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.50	3.35
Rhodinol	lb.	6.65	13.00
Safrol	lb.	.50	.53
Terpineol, C. P., 1000 lb. drs.	lb.	.23	.24
Cans	lb.	.25	.30
Terpinyl Acetate, 25 lb. cans	lb.	.77	1.00
Thymol, U.S.P.	lb.	1.40	1.45
Vanillin, U.S.P.	lb.	2.10	2.35
Yara Yara	lb.	1.25	1.50

Insecticide Materials

Insect Powder, bbls.	lbs.	.28	.30
Concentrated Extract			
5 to 1	gal.	1.50	1.60
20 to 1	gal.	5.65	5.75
30 to 1	gal.	8.60	9.00
Derris, powder—4%	lb.	.30	.35
Derris, powder—5%	lb.	.36	.42
Cube, powder—4%	lb.	.26	.30
Cube, powder—5%	lb.	.30	.35

Gums

Arabic, Amb. Sts.	lb.	.09	.09¼
White, powdered	lb.	.12½	.14
Karaya, powdered No. 1	lb.	.14½	.23
Tragacanth, Aleppo, No. 1	lb.	2.25	2.35
Flake	lb.	.50	1.00

Waxes

Bees, white	lb.	.37	.39
African, bgs.	lb.	.19	.20
Refined, yel.	lb.	.32½	.33
Candelilla, bgs.	lb.	.15½	.16
Carnauba, No. 1	lb.	.37½	.40
No. 2, N. C.	lb.	.34	.35
No. 3, chalky	lb.	.29	.30
Ceresin, yellow	lb.	.08½	.11½
Paraffin ref. 125-130	lb.	.039	.040

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Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

Antiseptic Soaps

SOFT soaps prepared as the bases for antiseptic soaps are usually made from linseed and olive oils. Saponification is with caustic potash in some cases and with caustic soda in others. As a basis for many antiseptic soaps, potash soap or Sapo kalinus is used, prepared from

43 parts of linseed oil
58 parts of 18.5°Be. caustic potash
5 parts of alcohol

The linseed oil is warmed in a suitable kettle, such as copper, porcelain or tin. To it is added the whole of the caustic potash with constant stirring. The temperature is brought to 70°C. and the alcohol added. Stirring is continued with gentle warming and saponification takes place quickly. This is marked by a large increase in volume, the soap then subsides and forms a thick, viscous, yellow-brown mass. This is diluted with water until the fatty acid content is reduced to about 40 per cent. A small portion is then tested for completeness of saponification to see whether it forms a clear solution in distilled water and alcohol. It can be tested further by dissolving 10 parts of the soap in 30 parts of alcohol. When 0.5 cc. of normal hydrochloric acid is added to this, the solution should remain clear. A test for too much excess alkali is made by adding to the same sample a drop of phenolphthalein solution. It should give no red color.

Another formula for Sapo kalinus is as follows:

30 kg. soybean oil, refined
22.5 kg. caustic potash, 30°Be.
3 kg. alcohol
18 kg. distilled water

Saponification may be carried out as above, or the lye, water and alcohol can be added at the same time. A dark-colored soap is obtained. Suitable medicaments may be added, if desired, such as mercury salts, ichthyol, etc. This type of soap can also be made from fatty acids.

A cresol soap solution may be made from the following:

30 parts olive oil fatty acids
30 parts soybean oil fatty acids
12 parts pure caustic potash, dissolved in
30 parts water and
6 parts alcohol

Into the prepared soap are mixed 100 parts of cresol of boiling range 199-204°C. Such a soap is used in about a 1 per cent solution.

An alcoholic soap solution for antiseptic purposes is made from:

6 parts olive oil
7 parts caustic potash, 1.128 sp. gr. (16.5°Be.)
30 parts alcohol, 90%
17 parts water

Saponification is rapid if the mixture is warmed to about 50°C. The solution is allowed to stand for a few days for clarification and settling of impurities and is then filtered. According to Bernhardt, pure isopropyl alcohol has greater germicidal power than ethyl alcohol. A 40 per cent solution of isopropyl alcohol is said to have the same germicidal action as a 60 per cent solution of ethyl alcohol.

A disinfectant soft soap to be packed in tubes is made from the following:

525 kg. coconut oil
325 kg. isopropyl alcohol
70 kg. water
262 kg. caustic soda, 33%

The coconut oil and isopropyl alcohol are mixed and then the lye, mixed with the water, is stirred in. The mass is warmed gently to speed up saponification. The soap is a soft salve when cold, but melts when rubbed on the surface of the hands.

For special purposes, *Sapo medicatus* is prepared. This is a sodium soap which is salted out with salt and soda after saponification is complete. A formula is as follows:

50 parts lard
50 parts olive oil
55 parts caustic soda, 38°Be.
12 parts alcohol
270 parts water
25 parts sodium chloride
3 parts soda ash
80 parts water

The caustic soda is first warmed and the fats added to it in small portions and mixed. After a time the alcohol is added mixed with part of the water, the rest of the water up to 270 parts added in small portions. A transparent soap paste is formed, which should be tested for completeness of saponification and excess alkalinity. The soap is allowed to stand for a short time, during which the salt and soda solution is prepared in 80 parts of water. The

salt solution is filtered and then used for salting out the soap, which is stirred and kept warm. After separation into layers is complete, the soap is allowed to cool. The cooled soap is drawn off from the lye liquor, washed with water several times and dried. It is best to cut it into small bars or it can be ground to powdered form. *Seifensieder-Ztg.* **65,** 901-2 (1938).

Continuous Soap Process

In a continuous process for producing soap powder or granules, the products of saponification are released under pressure from a conduit into a container in which soap and vapors of water and glycerine separate. Means are provided for heating the products in the container and for continuously withdrawing the vapors and the soap separately while air is excluded. The container is preferably maintained under reduced pressure. The heating may be effected by jacketing the chamber or by injecting steam. Refining, Inc. British Patent No. 487,470.

Phase Study of Soap

An isopiestic vapor-pressure method has been developed which is suitable for studying soap systems at high temperatures and high soap concentrations where the usual methods based on observation of phase changes or analysis of phases are inapplicable due to nonseparation of phases. Application to the system sodium palmitate-sodium chloride-water supplied the necessary data for completing the phase diagram at 90°C. which is given in both tabular and graphical form. It has been demonstrated (a) that curd phase can exist in true reversible equilibrium with neat soap, and that the two are separate phases; (b) that no stoichiometric hydrates occur in the system at 90°C., the curd phase varying continuously in water content. The appearance of curd fibers is illustrated photographically. Robert D. Vold and R. H. Ferguson. *J. Am. Chem. Soc.* **60,** 2066-76 (1938); through Chem. Abs.

Sulfonate Detergent

A COMPARATIVELY new organic detergent is currently attracting wider attention in the industry. This product, sold under the trade name of Nacconol NR, is a white flaky solid of definite and constant chemical composition, —an alkyl aryl sodium sulfonate. Although not a sulfated fatty alcohol, it is reported to have the surface-active and detergent properties of the sulfated alcohols and to have none of the drawbacks of soaps. Nacconol NR is described in a copyrighted booklet and in other material issued by the manufacturer*. The material is indicated to have a marked price advantage to consumers over other synthetic organic detergents.

The properties of Nacconol place it in the same classification as the Gardinols, as it is highly resistant to hard water and is itself neutral in reaction. The product is a water softener in the sense that it will disperse lime-soap curds into a very finely divided form so that they can be readily removed from fabric in the usual rinsing operation. The compound is resistant to the action of strong acids and alkalies, being stable in a 15 per cent solution of sulfuric acid and in a 10 per cent solution of caustic soda even when boiled for a long time.

The new detergent is much more soluble than sodium soap, since it dissolves very rapidly to the extent of 5 per cent in ordinary soft water at a temperature of 15°C. (59°F.). Solubility increases with temperature, being 21 per cent at the boiling point. The compound in solution lathers adequately but does not produce the abundant lather that some soaps do in soft water. A 0.1 per cent concentration in soft water produces 83 per cent of lather that a similar concentration of high-titer soap would produce. On account of its greater solubility it builds up a lather more quickly when a stream of water falls on it than does soap. The same amount of lather is produced in acid or alkaline solutions and in hard water, as in neutral soft water. Its efficiency as a detergent has been proved by practical demonstrations, the product having been found to be more efficient on a pound per pound basis than soap when used in average city water.

* Information reproduced by special permission of National Aniline & Chemical Co., New York.

Laundry Use

When used in the powder laundry, it was found that the new sulfonate dispersed, to a certain extent, old soap scums and lime deposits. It is therefore recommended that before using the detergent, the apparatus be boiled out with four pounds of the product plus four pounds of sodium metasilicate per 100 gallons of water. It should then be well flushed with clean water. Otherwise the first few loads washed with the detergent may be fouled by the accumulated scums and crusts from soap.

The product is said to be suitable for washing silk, synthetic and colored classifications, and wool. For general use in the wash wheel the procedure employed for low-titer soap is followed. Stock solutions are made up in which three pounds of soap as ordinarily used, are replaced with one pound of Nacconol. For each 10 pounds of the latter, six pounds of soda ash or four pounds of either trisodium phosphate or sodium metasilicate, or equivalent alkali, are used. This gives a stock cleansing solution comparable in detergent value to that obtainable with a built soap, and is useful for general suds operations. The detergent gives particularly good results with wool blankets, reducing felting and shrinking to a minimum. It was found in practice that a mixture of 10 pounds of low-titer soap with five pounds of Nacconol plus eight pounds of "mixed laundry alkali" would wash 50 per cent more woolen blankets than a mixture of

35 pounds of low-titer soap plus 12 pounds of the same "mixed laundry alkali." When used with soap in hard water, the sulfonate disperses the insoluble lime soaps formed so that they become free-rinsing.

Rug Washing

The new detergent is said to be effective for washing rugs, especially where hard water causes the formation of insoluble deposits with soap. These soap curds are impossible to rinse out and mask the natural lustre of the rug. It cleans and rinses freely in the hardest water.

It is common practice to make up a stock solution containing from three to seven pounds of the detergent in 50 gallons of tap water, adding two to four pounds of alkalies commonly used in rug cleaning. Application is the same as with stock soap solutions.

Organic detergents as a class, including the one under discussion, are not technically suitable for use in cleaning rugs with portable, motor-driven brush machines in the home, since these detergents penetrate through the carpet or rug so rapidly that the polished floor beneath is also wetted.

Other Applications

An efficient mechanics' hand soap is prepared by incorporating 15-25 per cent of the sulfonate with mild abrasives. Solvents may also be added if desired. Scouring powders for household use make excellent cleansers if 2-10 per cent of the Nacconol is mixed with abrasives and all soap is omitted. From three to eight per cent of the Nacconol in metal polishes increases their wetting power so that the metal can be polished in a shorter length of time. From three to ten per cent of sulfonate is recommended for windshield-cleaning compounds containing abrasives. Such a mixture will completely remove grease. It is easily rubbed off after drying.

◆

Hexametaphosphate

Recently amounts of hexametaphosphate very much below those required for complete calcium sequestration have been found effective in preventing calcium carbonate deposition upon moderate treatment of bicarbonate waters with heat or alkali. Thus the addition of 2 p.p.m. of hexametaphosphate to a water containing 200 p.p.m. of calcium bicarbonate will obviate precipitation when the water is treated with 500 p.p.m. of sodium carbonate or is heated to 80°C. for one hour. This "threshold treatment" with amounts of hexametaphosphate of the order of 1 to 5 p.p.m. has proved very useful in the prevention and removal of carbonate scale in many industrial processes. G. B. Hatch and Owen Rice. *Ind. Eng. Chem.* **31,** 51-7 (1939). An advantage of the "threshold treatment" is the relatively high pH which may be maintained in order to decrease corrosion without causing precipitation of calcium carbonate. Owen Rice and Everett P. Partridge. *Ibid.* 58-63.

◆

Scouring Product

A noncaking silica-phosphate mixture suitable for cleaning and scouring is prepared as a powdery mixture of particles of silica and of trisodium phosphate by thoroughly dispersing throughout the mixture a small quantity of an aluminum compound. The latter is active in preventing in its immediate vicinity the formation of an adhesive substance causing caking. Such adhesive is normally caused by interaction of silica and the alkaline sodium compound. Louis Block and Max Metziger. U. S. Patent No. 2,130,869.

◆

Fatty Acids for Mildew

Fatty acids and their salts are used for the mildew-proofing of textiles, paper etc. The amount of salt added is 0.01-2.3 per cent by weight of the water present as free moisture in the material treated. The salts used include the sodium, calcium, potassium, magnesium, mercury, zinc and ammonium salts of propionic, butyric, isobutyric, valeric, caprylic and lauric acids. A solution of the salt may be sprayed on to the surface of the material. *Chem. Trade J. & Chem. Engineer* **103,** 538 (1938).

Ether Sulfonates

Although the usual synthetic detergents have certain acknowledged advantages over soap as a cleaning agent, they also have their limitations. Sulfonated esters cannot be used successfully in strongly alkaline baths, while sulfated alcohols are not effective in strongly acid baths. As would be expected of an ether compound, the outstanding characteristic of this new sulfonate is its stability under diverse chemical conditions. It does not decompose in boiling acid or alkali, and in a commercial textile application it retains detergent properties after 18 hours in a boiling 1 per cent solution of potassium permanganate. It is adaptable for use in hard water. A mixture containing 1 per cent of calcium chloride, 1 per cent of sulfonated ether, and 98 per cent of water is quite clear even in the cold; other detergents are precipitated by water of 10 grains hardness. Though stability is the most important feature, tests and practical trials have indicated superior detergent and deflocculating properties. It appears to be very efficient in the scouring of wool, as shown by the following data:

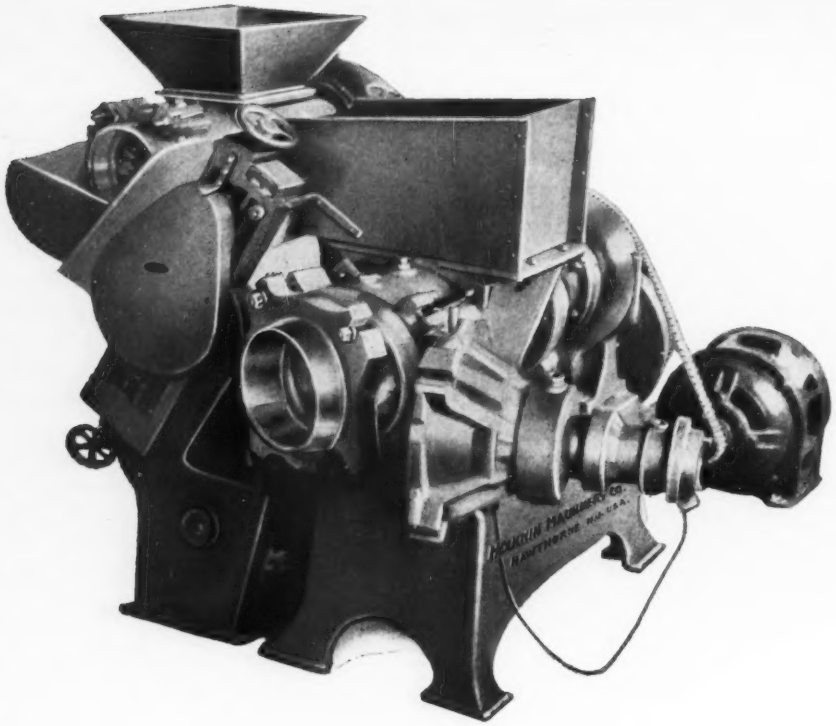
0.5% Soda ash plus following Detergent %	Grease remaining in 10-gram skein gram
0.25 soap	0.039
0.25 sulfonated ether paste	0.027
0.08 sulfonated ether paste	0.040
0.25 sulfated alcohol	0.075

When used with soda ash, the figures show that a 0.08 per cent solution of sulfonated ether paste is about as effective as a 0.25 per cent soap solution. F. J. Van Antwerpen. *Ind. Eng. Chem.* **31,** 64-6 (1939).

◆

Mastic Oil for Soaps

Italy is beginning production of an oil suitable for food, soap making etc. from the berries of the wild mastic (*Pistacia lentiscus* L.), which covers considerable areas in Sardinia and Lybia. The plant also furnishes tannins and resins. G. Reinboth. *Farbe und Lack* **1938,** 364; through Chem. Abs.



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Products and Processes

Soap Powder

Powder is obtained from kettle soap with a water content of about 30 per cent. or from filled soap with a water content of about 40 per cent. by reducing the water content to a predetermined degree. such as 5-25 per cent. converting the partially dried soap into a plastic or semifluid mass and then into discrete particles. and solidifying the particles. During the plasticizing stage there may be introduced perfumes. color and fillers.—air or other gas to produce uniformly airated particles.—and water to correct over-drying. Lever Brothers Ltd. British Patent No. 486,819.

Paraffin Acids for Soap

Air is passed for 10-30 hours through liquid paraffin at 90-160°C. in the presence of suitable catalysts. The oxidized product is washed first with an aqueous solvent and later with a base. Any ingredients which cannot be saponified are removed either by extraction with a solvent or by distillation. The crude soap is treated with a dilute acid to liberate the fatty acid which is then fractionally distilled. Soft soap. soap powder. household soap and toilet soap can be obtained in this way. Gustav Wietzel. Klepzig's *Textil-Z.* **41,** 528-9 (1938); through Chem. Abs.

Transparent Soaps

Solid transparent soaps are the more hydroscopic. the more transparent they are. Transparency varies with the content of coconut oil or palm kernel oil. The content of soft fats should not exceed 30 per cent. Potash soaps can be prepared from fatty acids by the semiboiled process. The absence of glycerine then decreases hygroscopicity but also decreases transparency. A steamheated. doublewalled kettle with stirrer is highly efficient. Transparency is achieved only with a fatty acid content of 62-63 per cent. A strong caustic potash solution of about 40° is used. Such a soap may be made from 50 parts by weight of tallow fatty acids. 20 of fatty acids from bleached palm oil, bone fat. or hardened fat. 30 of coconut oil or palm kernel oil-fatty acids. and 55 parts of 42°Be. caustic potash solution. *Seifensieder-Ztg.* **65,** 866 (1938).

Cyclohexanol in Soap

Methylcyclohexanol and cyclohexanol. solvents made by the hydrogenation of cresylic acid and phenol respectively. increase the solvent and emulsifying power of soaps. as well as their stability toward hard water. Methylcyclohexanol is usually preferable to cyclohexanol. since the considerable advantage in price of the former more than outweighs the advantages possessed by cyclohexanol of a rather milder odor and greater ease of incorporation in soaps.

Methylcyclohexanol is incorporated in bar. soft. liquid. flake and powdered laundry soaps. particularly in the first 3 types. Bar soaps may contain from 3-5 per cent. soft soaps 10-15 per cent. liquid soaps 15-25 per cent. and flake and powder types from 1 to 2 per cent. Such soaps are used not only for presoaking purposes but also in the first and second main washes. They are particularly useful for low-temperature washing. as of woollen and rayon garments. for very dirty work such as overalls and hospital linen. for carpets and for rubberized materials. which they do not attack.

For household and industrial purposes. methyl cyclohexanol soaps are giving much satisfaction. They can be used to advantage on rubber. wood. stone and other types of flooring. Liquid and soft soaps are the usual types. Their advantage is probably well recognized for dry-cleaning soaps. textile soaps. and for mechanics' use.

Manufacturers of bar soaps crutch the solvent into the finished soap after running out of the pan and before setting in the frames. In the case of soft and liquid soaps the solvent may be added after saponification has been completed. but a better method is to add it to the oils and fats before saponification begins. This method has the great advantage that it lowers the viscosity of the soap medium during manufacture. If a closed pan is used there is no loss of solvent. Joseph M. Vallance. *Soap. Perfumery and Cosmetics* **11,** 998-9 (1938).

Soap Particles

Soap powder or granules. with or without separation and collection of glycerine. are obtained by releasing a hot stream of saponified fat into an evacuated chamber and continuously withdrawing the soap particles without materially impairing the vacuum. Water vapor. with or without glycerine vapors. according to the temperature and degree of vacuum. is also withdrawn continuously. The saponification is preferably effected by continuously mixing proportioned streams of alkali solution and fat and forcing the mixture at high pressure through a heated coil. The soap particles may be withdrawn by a conveyor and cooled before contact with air; they may be compacted. with or without plodding. to any degree and may be extruded to form bars or filaments; they may be hydrated and mixed with fillers to any extent desired. Refining. Inc. British Patent No. 487.399.

Apparatus for Oil Extraction

An extraction apparatus consists of a unit at one end of which is a feeding means for solid material and at the opposite end a means for discharging solid material. An inlet for liquid solvent is at the solid-discharge end. so that the solvent passes in a countercurrent through the moving solid. Extractol Process Ltd. Canadian Patent No. 378.658.

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PQ

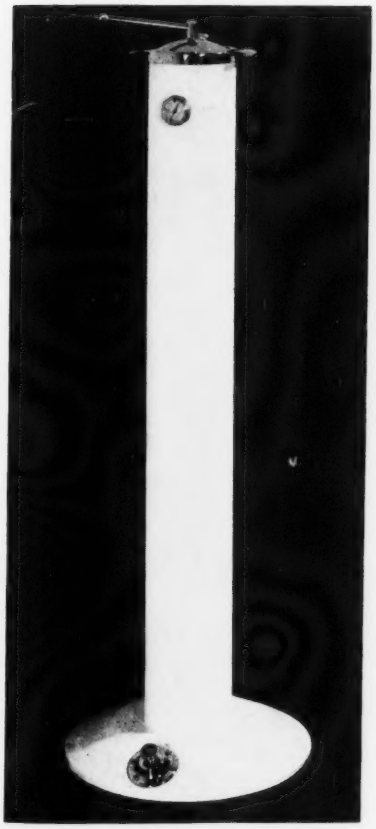
New Equipment

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

◆

528—New Hospital Dispenser

Bobrick Manufacturing Corp., Los Angeles, is now in production on a new pedestal type portable soap



dispenser for hospitals, in which, there are no rods, levers, washers, springs, or other moving parts. Other liquids may also be dispensed from this dispenser, such as alcohol, antiseptic solutions, disinfectants, etc.

◆

529—New Floor Machine

Fay Co., New York, is producing a new improved Fay floor machine, a "Jumbo model," which is designed for extra heavy work. The combination weight of the machine is 120 lbs. It can be equipped with either a ½ or ¾ horsepower motor.

◆

530—Neoprene Gaskets

E. I. Du Pont De Nemours & Co., are producing a "Neoprene" (synthetic rubber) gasket for use in glycerine evaporators. The gaskets are said to be sufficiently resilient to effect perfect sealing, and are resistant to the action of soaps.

◆

531—New Wrapping Machine

Package Machinery Co., Springfield, Mass., is now producing a new high speed adjustable wrapping machine, Model CM-2, for small packages. It has an output of 250 per minute, and fits in a floor space of approximately four by three and one half feet.

◆

532—Floor Resurfacer

Flexrock Co., Philadelphia, has just issued a 4-page folder describing its "Ruggedwear Resurfacer" for repairing floors. Another 4-page folder was also issued describing "Flexrock Non-slip Wax."

◆

533—Schimmel Report

Schimmel & Co., New York, have announced that the English edition of the 1938 Schimmel Scientific Report on perfuming materials is ready for distribution. The 177 pages are of the usual high standard, and abound with useful facts. In the section on camphor, interesting figures are given on the Japanese exports; and the production of camphor oil in China is the subject of an interesting paragraph. The monograph on Javanese citronella oil presents very interesting facts and figures, followed by an account of Indo-Chinese citronella. Another section deals with adulteration, such as a sample of oil Ceylon citronella containing 19 per cent kerosene as well as terpenes, oil bergamot containing terpinyl acetate and other esters and terpenes, and numerous other cases. Original papers from the Schimmel research laboratories on the oxidation of semi acetals and on enol-acylates are valuable contributions.

◆

534—Insecticide Booklet

S. B. Penick & Co., New York, have issued a booklet containing information about rotenone insecticides, derris, timbo, and cube. Included is an insect control chart, which gives data on the type, and amount of insecticide to use on various types of crops for certain insects. A dilution table is also included for use with "Foliafume," a pyrethrum rotenone plant spray.

◆

535—Jasminola Folder

General Drug Co., New York, has issued a folder describing "Jasminola," a new jasmin odor. It is recommended for use in compounds which are too harsh, or are not sufficiently rounded off, in quantities from 5 to 10 per cent. It has only a faint color.

◆

536—Detergent Folder

American Cynamid & Chemical Corp., New York, has just issued a folder on tetra sodium pyro phosphate. It is described as an effective detergent aid, which when used in soaps, and in cleaning compounds, greatly increases the general efficiency of these products. Copies available.

◆

537—Monsanto Stock Survey

Monsanto Chemical Co., St. Louis, moved by frequent allegations that "60 families" control the assets of the country, recently made a survey of its own typically American company. It was found that the stockholders were of a wide variety and class of people. Choosing Cincinnati as a typically average American city, stockholders of the company living there were then interviewed and photographed. These interviews are reported in full in the latest issue of *Monsanto Magazine*, copies of which are available.

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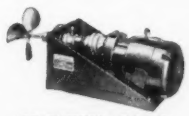

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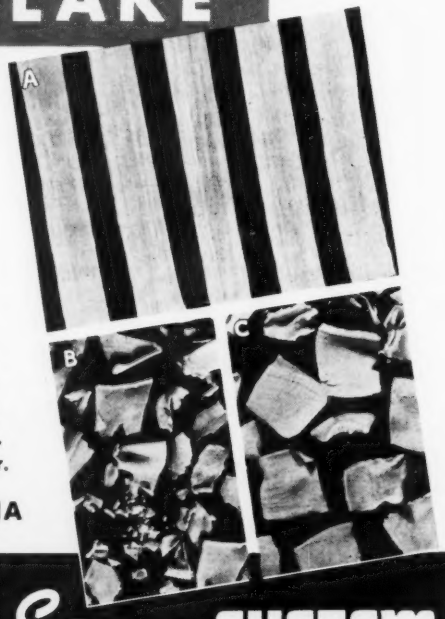

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New Patents

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Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,137,213, Soap of Low Moisture Content, Patented November 15, 1938, by Benjamin Clayton, Sugarland, Tex., and Walter B. Kerrick, Los Angeles, and Henry M. Stadt, Glendale, Calif., assignors to Refining, Inc., Reno, Nev. An apparatus for producing soap, which comprises: a heater; means for delivering a dispersion, consisting of a saponifying material in aqueous solution carried in a saponifiable material, to the heater; means for supplying heat to the dispersion while in the heater in sufficient amounts to cause a rapid reaction in the dispersion and thus form soap and steam in the heater; means for controlling the heat supplied to the dispersion while in the heater in response to the amount of steam present in the heater; walls forming an expansion chamber into which the soap is delivered while in a heated condition; and means for withdrawing vapor from the chamber at a sufficient rate to maintain a partial vacuum on the chamber.

No. 2,138,873, Covered Soap Tablet, Patented December 6, 1938 by Claude Isaac Meyer, Paris, France. In combination with a soap tablet, a pliable waterproof protective sheath adapted to be rolled up and down along the lateral faces of the tablet and having a free edge formed with a rolled bead, the lateral faces being formed with flutings extending peripherally all around the tablet, so that the rolled bead increases in diameter and can be accommodated at each of the successive flutings according as the tablet is worn away from the surface from which the sheath is rolled up, the flutings having a width less than the diameter of the roll and a depth greater than the penetrating portion of the roll, whereby the sheath forms closed air pockets in the flutings.

No. 2,139,102, Germicidal Agent, Patented December 6, 1938 by Karl T. Steik and Julius F. Muller, Upper Montclair, N. J., assignors to National Oil Products Company, Harrison, N. J. A composition for destroying coccidia oocysts comprising sulfur dioxide dissolved in an oil.

No. 2,139,256, Parasiticidal Composition, Patented December 6, 1938 by Euclid W. Bousquet, Wilmington, Del., assignor, by mesne assignments, to E. I. du Pont de Nemours & Company, Wilmington, Del. An emulsifiable anhydrous parasiticidal composition consisting essentially of lauryl thiocyanate and cyclohexyl diethyl ammonium lauryl sulfate in substantially equal proportions and characterized as a homogeneous solution readily dispersible in aqueous media to form stable emulsions for use as plant sprays.

No. 2,141,189, Bleaching and Cleansing Compositions, Patented December 27, 1938 by Otto Lind, Dusseldorf, Germany, assignor to Henkel & Cie. G. m. b. H., Dusseldorft-Holthausen, Germany. A composition of matter for bleaching and cleansing purposes composed of 8 to 21 parts of a per compound capable of liberating oxygen when in aqueous solution, 10 to 37 parts of a water soluble salt of a phosphoric acid having a fewer number of chemically combined water molecules than orthophosphoric acid, 6 to 45 parts of water soluble alkaline detergent, and 1 to 4 parts of a preformed difficultly soluble, colorless silicate of a metal of the group consisting of those in Group II and Group IV of the periodic system and having an atomic weight of from 20 to 140, the silicate being present in a sufficient quantity to stabilize the per compound all parts by weight.

No. 2,140,481, Insecticide, Patented December 13, 1938 by William Gordon Rose, College Park, Md., and Herbert L. J. Haller, Washington, D. C.; dedicated to the free use of the People in the territory of the United States of America. An insecticide, containing as its essential active ingredient, a pentaerythritol derivative in which the hydroxyl groups are replaced by halogen atoms of the group consisting of chlorine, bromine and iodine.

No. 2,138,516, Insecticidal Composition, Patented November 29, 1938, by Robert L. Sibley, Nitro, W. Va., assignor to Monsanto Chemical Company, St. Louis, Mo. An insecticide having as an active ingredient a material selected from the class consisting in rotenone and pyrethrum compositions and a preservative thereof selected from the class consisting in diaryl arylene diamines, aldehyde derivatives thereof, and the product obtained by reacting a diaryl arylene diamine with an aldehyde and an alcohol.

No. 2,138,557, Insecticide, Patented November 29, 1938, by Charles C. Plummer, Mexico, D. F., Mexico; dedicated to the free use of the Public in the Territory of the United States of America. An insecticide containing, as its essential active ingredient, copper sucrate.

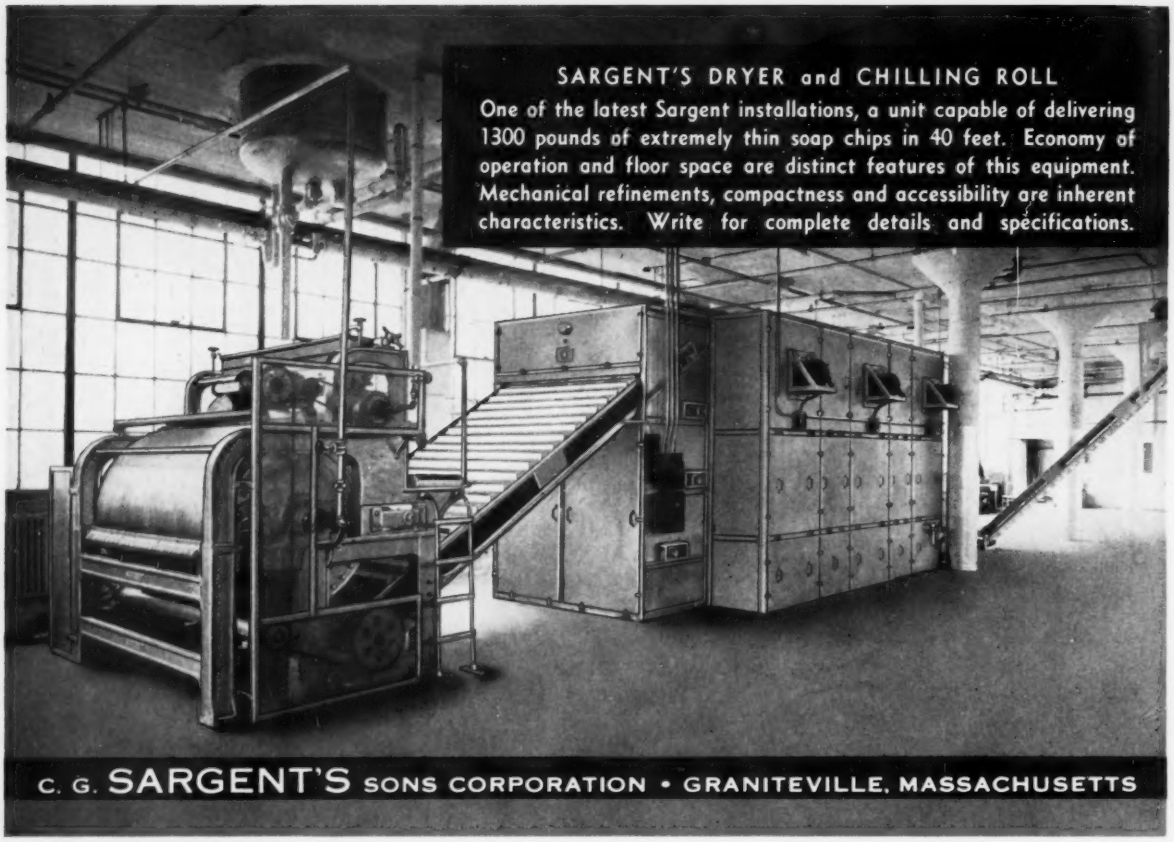
No. 2,138,805, Germicidal Detergent, Patented November 29, 1938, by Halvor O. Halvorson, St. Paul, Milward Bayliss, Minneapolis, and John L. Wilson, St. Paul, Minn., assignors to Economics Laboratory, Inc., St. Paul, Minn. A germicidal detergent composition in the form of a dry mixture of buffer salts, soaps, and the sodium salt of a phenyl phenol, in such proportions that when a solution adapted for use as a detergent solution, is made of the mixture in such strength that the resulting pH will be from 7 to 11, the soap and phenolate will each be present in solution and to the extent of only a small fraction of 1% in the solution, the proportion of phenolate being such that the solutions would not be germicidal in the absence of the soap.

Washing Liquids

In using washing liquids which are stable in the presence of salts of hard water such as the sodium salt of the methyltauride of oleic acid, soluble aluminates are added to prevent deposition of scum on cloth fibers. I. G. Farbenind. A.-G. French Patent No. 827,739.

Emulsifying Agent

An emulsifying agent is prepared by subjecting a fatty alcohol to the action of a reagent containing an acid radical such as sulfuric, boric or phosphoric acid—incorporating a terpene with the resulting reaction mixture, and neutralizing the product with a base. Canadian Aniline & Extract Co. Canadian Patent No. 377,543.



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Revise Alkali Specifications

The Federal Specifications Executive Committee has appointed a technical committee on chemical products to draft proposed revisions of specifications for alkalies. These revisions have been prepared, and are being submitted to manufacturers and users of alkalies, before submission to the executive committee. Comments or criticisms will be welcome, and will receive consideration in possible revision of the tentative drafts. The alkalies on which revised specifications have been issued are as follows:

O-S-581—Sodium Carbonate

P-S-631—Caustic Soda (lye); (for) cleaning purposes

P-S-641—Laundry Soda (washing soda)

The proposed revisions are:

Soda ash—shall be of the following types as specified; Type I—58 per cent ordinary or light, Type II—58 per cent extra light, and Type III—58 per cent dense. The specifications now consider two grades, Grade A, which corresponds to Type I, and Grade B, corresponding to Type III. The change then, is in the addition of Type II.—the extra light type. Soda ash must under the specification be a high grade anhydrous sodium carbonate in powdered form and shall be of the type specified by the purchaser. Total alkalinity of the material, after drying for one hour at 150 to 155° C., shall not be less than 99.2 per cent, calculated as sodium carbonate (Na_2CO_3). The new specification eliminates the necessity of having a total alkalinity, calculated as Na_2O, of not less than 58 per cent, which is now required. After drying the material for one hour at 150 to 155° C., bicarbonate shall not exceed 0.5 per cent. Matter insoluble in water, after drying for one hour at 150 to 155° C., shall not exceed a maximum of 0.25 per cent. No specification is given as to hydroxide content (NaOH) in the new draft, nor is any given for sulfur, both of which are covered in the specification now in force. Under the proposed revision the loss in weight, on heating about two grams, accurately weighed, of the material (Types I, II or III) as received, for one hour at 150 to 155° C., shall not exceed the following limits; (a) if sample is taken at contractor's shipping point, maximum shall be one per cent. (b) if sample is taken elsewhere, maximum shall be four per cent. This differs from the present specification in that it allows for a difference in loss of weight between shipping and receiving points. As it now stands, loss of weight is restricted to one per cent at all times.

Type I—Thirty grams of the light soda-ash, as received, shall have an apparent volume of from 50 to 65 milliliters.

Type II—Thirty grams of the extra-light soda-ash as received, shall have an apparent volume of from 75 to 95 milliliters.

Type III—Thirty grams of the dense soda-ash, as received, shall have an apparent volume of from 30 to 40 milliliters.

The above provisions in the new specifications would widen the limits of volume in the case of Type I, which corresponds to Grade A, now allowing an apparent volume of 55 to 65 milliliters. Type II of course is not included in the specifications now in force, but Type III, corresponding to Grade B, remains within the same limits of volume.

Sodium Carbonate—according to the revised specification shall be of but one grade and that must be in granular form. It shall be a white, granular, high-grade sodium carbonate with one molecule of water of crystallization ($Na_2CO_3H_2O$). It shall have a total alkalinity, calculated as Na_2O, of not less than 49.7 per cent. The loss on heating at 110° C. shall not be less than 10, nor more than 15 per cent. Matter insoluble in water shall not exceed 0.1 per cent, while for bicarbonate there is no maximum content.

Caustic Soda for Cleaning, (lye)—shall be of but one grade, furnished in air-tight containers (13 ounce cans, or drums) in flake, ground, or lump form as specified by the purchaser. The change in the specification here is in the mention of air-tight containers, which the present specifications do not require. Caustic soda as received shall have a total alkalinity, calculated as Na_2O, not less than 73.6 per cent, for which now, no requirement is made. It shall contain not less than 95 per cent sodium hydroxide (NaOH), 5 per cent more than the present specification, which requires a minimum of 90. The specification now in force calls for not more than 4 per cent carbonate, calculated as sodium carbonate (Na_2CO_3). The revision would make the limit lower with content of carbonate, calculated as sodium carbonate, not more than 2 per cent.

Laundry Soda—shall be of but one grade, a white uniform powder composed of sodium carbonate and sodium bicarbonate ($NaHCO_3$). Total alkalinity, calculated as Na_2O, shall fall within a maximum of 43, and a minimum of 39 per cent. This increases the present limits which are 41 and 39 per cent respectively. Matter insoluble in water shall not exceed 0.1 per cent; in this there is no change. However the proposed revision calls for a requirement as to sodium bicarbonate and sodium carbonate content, where now there is none. The content shall be; sodium bicarbonate not more than 50, nor less than 35 per cent, and sodium carbonate, the same.

Comments or criticisms on the suggested changes may be sent to the Technical Committee on Chemical Products, Federal Specifications Executive Committee, National Bureau of Standards, Washington, D. C., referring to file No. V-2/Com.

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Higher Fatty Alcohols

(*From Page* 31)

for hydrogenating freshly prepared acid from coconut oil to give the corresponding alcohol.

According to Canadian Patent No. 354,246, November 19, 1935, to W. A. Lazier and assigned to Canadian Industries, Ltd., alicyclic acids, hydroheterocyclic acids, or their derivatives, such as esters, chlorides, or amides are hydrogenated

under high pressure and temperature in the presence of a catalyst. For example, high molecular alcohols are produced by reducing naphthenic acids with hydrogen in the presence of chromic oxide containing a hydrogenating metal at 300 to 400° C. and a pressure of at least ten atmospheres.

United States Patent No. 2,023,383, December 3, 1935, to W. Schrauth and T. Bottler, assigned to the "Unichem" Chemikalien Handels A.-G., covers the production of high-molecular alcohols by adding to a natural fat, such as coconut fat, a hydrogenation catalyst, such as a copper, zinc, lead, manganese, cobalt or mercury salt of palmitic, stearic, linseed oil, colophonic or naphthenic acid or a chromous salt of cocoic acid, and hydrogenating it at about one hundred to two hundred atmospheres pressure at a temperature of about 280 to 300° C., until the esters are separated into alcohols and acids, and the acids are reduced to alcohols. Also see German Patent No. 629,244.

British Patent No. 440,934, January 8, 1936, to the Chemische Fabrik vorm. Sandoz, states that alcohols are produced by the catalytic hydrogenation of saturated or unsaturated aliphatic acids having more than four carbon atoms by means of the usual catalysts with an addition of not more than ten per cent of iron. Thus, the cetyl ester of palmitic acid is hydrogenated at 300° C. and two hundred atmospheres pressure by the use of a copper-chromium catalyst activated with three per cent of iron oxide. Also see United States Patent No. 2,110,483.

Unsaturated Alcohols

British Patent No. 441,096, January 13, 1936, to H. Th. Bohme A.-G., states that in the catalytic reduction with hydrogen of fatty acids containing at least eight carbon atoms, esters are obtained as the principal products by adding to the catalyst, which may be any of the known hydrogenation or methanol-forming catalysts, a regulator consisting of a nonmetallic compound containing a nonmetal or metalloid of the fourth, fifth or sixth periodic group that is capable of exercising a higher valency. When unsaturated fatty acids are treated, unsaturated esters are produced from which unsaturated alcohols are obtainable by saponification. Among examples, oleic acid is hydrogenated at 280° C. and above two hundred atmospheres pressure, in the presence of a catalyst and a regulator to yield a product with an acid value of 58.3, iodine value of 5.6, hydroxy value of 0 and an ester value of 83.4, these values being 4.2, 0.6, 123.4 and 33.3, respectively, when no regulator is used. The catalyst is prepared by precipitating cupric carbonate from a solution of copper sulfate, boiling the washed precipitate in aqueous suspension with ammonium dichromate and calcining at 400° C. after rewashing and drying. The regulator is prepared by boiling sulfur in quinoline, hydrogen sulfide being evolved, and diluting the product with xylene. Also see United States Patent No. 2,127,369.

In German Patent No. 626,979, March 16, 1936, to the Deutsche Hydrierwerke A.-G., W. Schrauth states that mono- or poly-hydric aliphatic alcohols are obtained from the fatty acids resulting from the acid fermentation of sugar, starch or cellulose by treatment with hydrogen at high temperatures and pressures in the presence of a catalyst. The acids may be treated as such, or as esters, or after fractionation. In an example, the mixture of acetic, propionic, valeric and butyric acids obtained by fermenting molasses is esterified with butyl alcohol and heated to 270 to 330° C. at two hundred to two hundred and fifty atmospheres pressure with hydrogen in the presence of a hydrogenating catalyst containing eighty per cent of kieselguhr, fifteen per cent of copper and five per cent of chromium. The product is a mixture of the corresponding alcohols.

In French Patent No. 796,059, March 28, 1936, the I. G. Farbenindustrie A.-G., says that in the preparation of substances having capillary activity, one or more of the double bonds in resinic acids are hydrogenated and the carboxy groups are transformed to CH_2OH groups. The alcohols thus obtained are sulfonated under moderate conditions to give alkylsulfuric esters of high molecular weight which have cleansing and dispersing properties.

In German Patent No. 629,244, May 2, 1936, to the Deutsche Hydrierwerke A.-G., W. Schrauth proposes to prepare the higher aliphatic hydrocarbons or alcohols, or mixtures thereof, by heating the esters of the higher aliphatic acids, particularly fats or waxes, with hydrogen at 250 to 350° C. under a pressure of the order of one hundred atmospheres, in the presence of a hydrogenation catalyst. Examples are given. Also see German Patent No. 636,681.

In Canadian Patent No. 357,598, May 5, 1936, to W. A. Lazier and assigned to Canadian Industries, Ltd., a mixture of higher alcohols is prepared by the catalytic hydrogenation, at above 200° C. and at a pressure of ten atmospheres, of oleic acid, esters of oleic acids, or mixtures containing oleic acid and its esters.

United States Patent No. 2,040,944, May 19, 1936, to W. A. Lazier and assigned to E. I. du Pont de Nemours and Company, covers the preparation of polyhydroxy alcohols from acids. A polybasic acid such as succinic acid is completely esterified with a monohydric aliphatic alcohol containing at least four carbon atoms, such as butyl alcohol, and the resulting product is subjected to catalytic hydrogenation at a temperature above 200° C., preferably at about 255° C., and under a pressure of over fifty atmospheres, preferably at two hundred atmospheres, to produce an alcohol such as tetramethylene glycol, etc. Several examples are given.

The discussion of the patents and patent situation in the higher fatty alcohols will be concluded in the next issue.—The Editors.

Sanitary Products SECTION

A Section of "SOAP" dealing with

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

MONSANTO ROLL CALL

SANTOCHLOR (Paradichlorbenzene)
ORTHODICHLORBENZENE
METHYL SALICYLATE U. S. P.
(Oil of Wintergreen Synthetic)
PHENOL U. S. P.
NITRE CAKE
CRESYLIC ACID
TRI SODIUM PHOSPHATE
WETTING AND SPREADING AGENTS

As 1939 gets under way, Monsanto calls the roll of its hundreds of products, including the many that serve manufacturers of sanitary products. The quality and uniformity of Monsanto products, safeguarded by constant research, will continue to keep pace with the requirements of the industry.

Monsanto Chemical Company
St. Louis, U. S. A.

New York • Chicago • Boston • Birmingham • Charlotte
Detroit • Los Angeles • San Francisco • Montreal • London

SANITARY PRODUCTS

RELIABLE POWCO BRAND PRODUCTS

REG. U.S. PAT. OFF

BASIC PYRETHRUM EXTRACTS

—carefully standardized as always. Four routine check tests, both chemical and biological, assure you highest quality. Cold-process extraction gives you complete and lasting dependability always.

PYRIN SAVES YOU 30%

—the most economical fly-spray concentrate. Savings up to 30% on your extract costs, without sacrifice of quality. Requires no changes in your present set-up.

New High Test PYRETHRUM POWDER

—a complete newly designed milling unit of large capacity has recently been installed in our plant, making possible a powder of infinitely greater fineness. Such fineness means more even distribution and wider effectiveness. A better powder with better results for you.

DERRIS AND CUBE

—powders of specific rotenone content and fine-mesh grinding; air floated fineness; extracts in vehicles most suitable to your needs.

Practical laboratory control is the sure cure for guess-work—and gives you better quality—at a saving!

Killing Power — That's The Thing!

JOHN POWELL & CO., INC.

Specialists in Pyrethrum & Rotenone

114 East 32nd Street New York

FELTON
FLY SPRAY PERFUMES
WILL BRING YOU
BIG BUSINESS IN '39

Retail buyers insist on a fly spray entirely free from disagreeable odor. If the odor of your product has been inadequately neutralized . . . if your product is poorly perfumed . . . if it lacks "fragrance appeal," it has probably failed to fulfill sales expectancy.

IMPROVE YOUR PRODUCT . . . AND YOU'LL IMPROVE SALES!

It's a fact that correct neutralizing and perfuming are paramount factors in marketing successful Insecticide Sprays.

By using these excellent perfumes, developed by Felton Chemical Company, Inc. after years of research and actual market tests, you are sure of correctly neutralized and pleasantly perfumed sprays at an unusually economical cost.

KEREX 11 *for LETHANE SPRAYS*

Tested and approved by Rohm & Haas, manufacturers of Lethane

KEREX L'ORIENT
A sweet vanilla-like fragrance.

KEREX BOUQUET
A floral odor of proven merit.

KEREX V450
A clean "outdoor" scent.

USE THESE FINE QUALITY KEREX PERFUMES AT A COST OF LESS THAN 2c PER GALLON OF SPRAY.

Send us a sample of your unperfumed spray so that our laboratory can recommend the most advantageous perfume

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CHEMICAL COMPANY, INC.
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MANUFACTURERS OF AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME OILS, ARTIFICIAL FLOWER AND FLAVOR OILS
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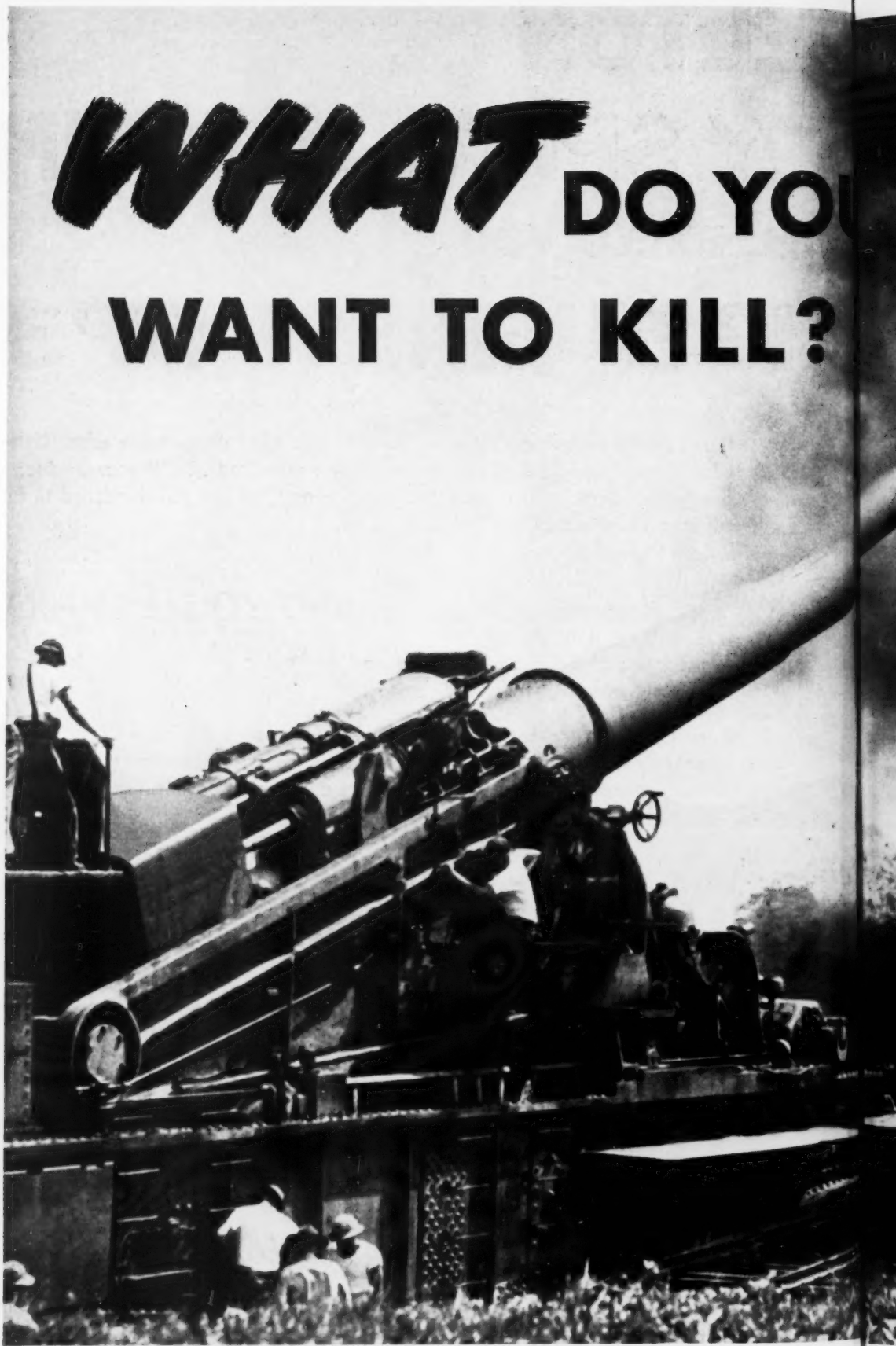
WHAT DO YOU
WANT TO KILL?

THE fourteen inch coast defense gun at the left is a fine example of killing power—but probably not quite the kind you're looking for!

It is a good reminder, though, that there are many *kinds* of killing power—depending on *what* you want to kill.

And it brings up a question, one that you might profitably ask yourself when you consider an insecticide base.

Not only, "Has it killing power?" but . . . "WHAT DOES IT KILL?"

Naturally, you expect it to kill common houseflies, but what about the other common insects such as roaches, clothes moths, bedbugs, silverfish and ants?

It is now well known that the Peet Grady test does not indicate the effectiveness of household insecticides against the hardier household pests. Certain synthetics, rated highly by the Peet Grady test, have proved to be almost inert against roaches.

Certain synthetics, when added to pyrethrum concentrates, cause the Seil method to show a higher pyrethrin content than is actually present.

But despite these difficulties facing the inquiring manufacturer, there are two facts that stand clear:

Pyrocide 20, during the ten years of its existence, has proved its effectiveness against the hardier insects as well as flies and mosquitoes.

Pyrocide 20 contains *no* active principle but pyrethrum. It is specially treated to remove "false pyrethrins." Pyrocide 20 is guaranteed to contain 2½% pyrethrins by weight, and the assay made by us immediately before shipment is easily confirmed upon delivery by any competent chemist.

That is why manufacturers relying on Pyrocide 20 can be certain that they can make an insecticide which is effective not only against houseflies, but also against roaches, bedbugs, clothes moths, silverfish, ants, crickets and many other household pests. McLaughlin Gormley King Co., Minneapolis, Minnesota.

PYROCIDE 20

THE PUREST FORM OF PYRETHRINS COMMERCIALLY AVAILABLE

Now ready!

1939 Official Test Insecticide

STOCKS of the 1939 Official Test Insecticide for evaluating commercial liquid spray household insecticides by the Peet-Grady Method according to the official procedure of the National Association of Insecticide & Disinfectant Manufacturers, are now ready for distribution at the office of this Association. Sold in single six-ounce bottles and cartons of one dozen six-ounce bottles. Available to members and to the industry at large without restriction.

For further details, prices, etc. communicate with the office of this Association. Particular note should be made that the 1938 Official Test Insecticide is now obsolete, and **should not be used.**

▼

National Association of
Insecticide & Disinfectant Manufacturers, Inc.

110 East 42nd Street — New York

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"FRESH FROM THE COUNTRY"—

3 NEW GIVAUDAN FLY SPRAY ODORS

To help the manufacturer meet the demand for perfumed fly sprays, Givaudan has developed these three new and highly effective aromatics:

OZONE COMPOUND GD
MEADOW SWEET GD
NEW MOWN HAY GD

All three may be used with excellent results in any type of spray using either Pyrethrum or Pyrethrum substitutes as the toxic principle. Approximately ⅛ oz. per gallon gives very good coverage in ordinary kerosene; in deodorized kerosene even less is required. Givaudan invites manufacturers to write for samples, prices and further information on these important new odor developments.

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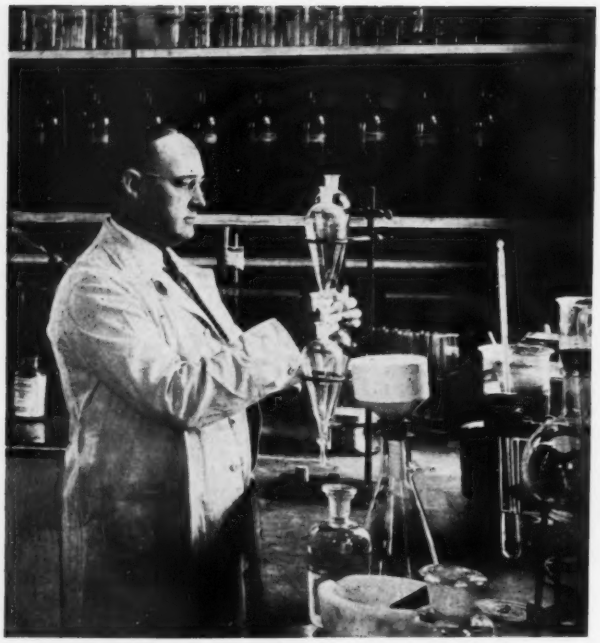
Triple-Check Laboratory Control Guarantees That...

PYREFUME Super 20 Contains

Not Less than 2 Full Grams of Pyrethrins

in Every 100 cc.



Penick Control Laboratory in which Pyrefume is triple-assayed for pyrethrins content.

And sometimes we use MORE than 20 lbs. of flowers to produce one gallon of PYREFUME. A standardized pyrethrins potency is our aim and not merely a 20 to 1 extract.

PRICES MAY RISE MARKEDLY

All indications point to a rising rather than a falling price on Pyrethrum flowers. It will be recalled that last year the Pyrethrum market advanced sharply in the spring. If you are one of those consumers of Pyrethrum Extract who have not yet contracted for 1939, why not let us quote you on the quantity you are interested in having delivered by September 30th?

PYREFUME . . . tested for above standard "knock-down-and-kill" potency, unique in stability, clear blending, unusually non-staining, singularly free from unpleasant odor, low in cost.

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SHOW YOU

We don't claim to be *"the greatest perfumers on earth."* Claims are worthless if performance does not back them up. We want to show you what we can do when it comes to perfuming your insecticide. Send a gallon of your unperfumed insecticide and let us submit samples perfumed as we think it should be.

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AN OUTSTANDING PYRETHRUM CONCENTRATE MERITS AN ADVERTISING PROGRAM—*IF ITS QUALITY IS SUBJECT TO CONSTANT ANALYSIS!*

BECAUSE of the necessity for a policy of careful and continuous control, R. J. PRENTISS & CO., INC., exerts the utmost care in checking their own analytical results of CLARIFIED PYRETHRUM CONCENTRATE No. 20.

Representative production samples are turned over to Seil, Putt, and Rusby, Inc., for independent chemical assay, providing an unbiased analysis to continually verify the toxic content.

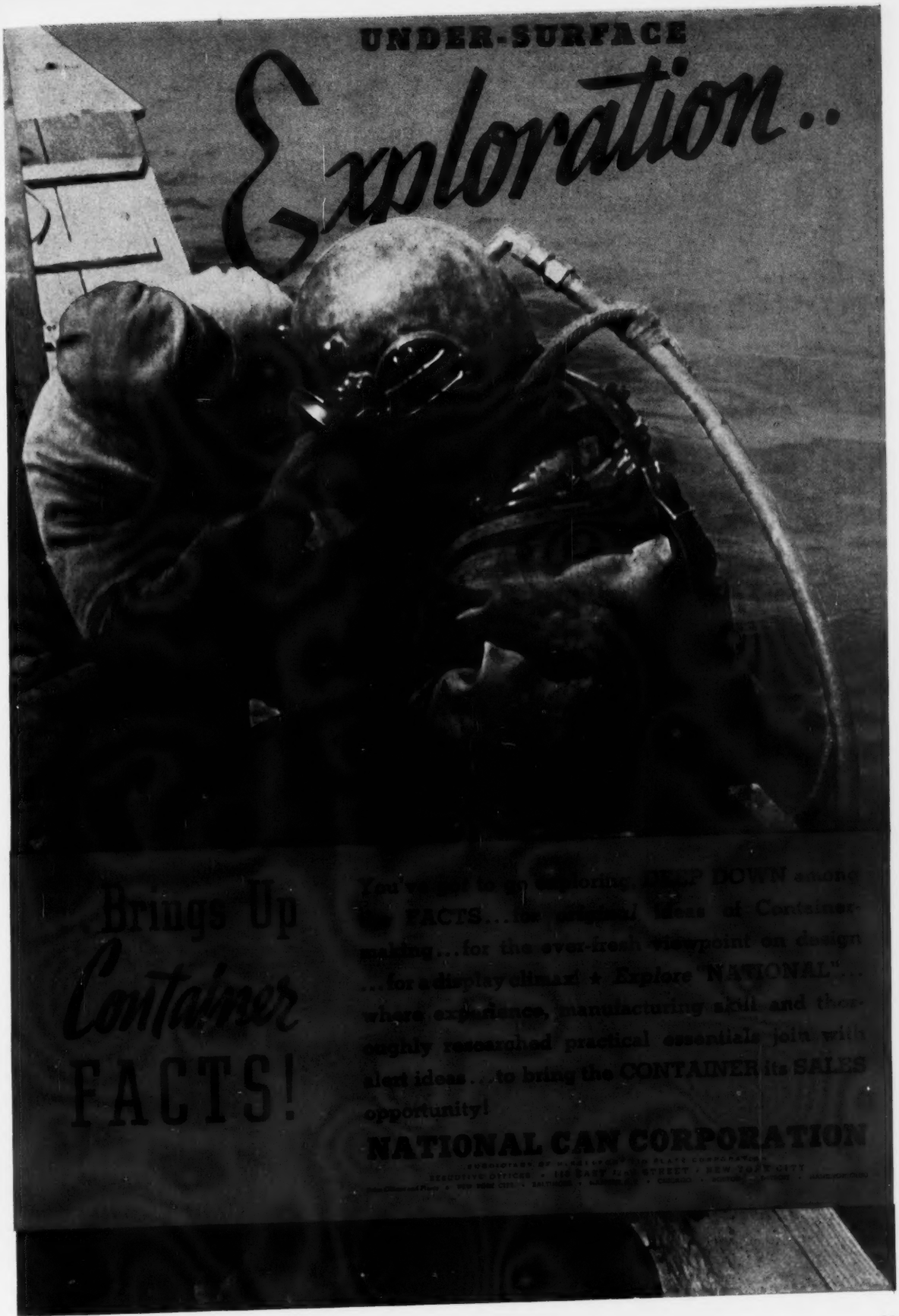
For an insecticide base of tested reliability, R. J. PRENTISS & CO., INC. recommend their CLARIFIED PYRETHRUM CONCENTRATE No. 20—the concentrate that is

PUBLICIZED—*AND STANDARDIZED*

R. J. PRENTISS & CO., Inc.

100 Gold Street *EST.* 1908 **New York City**

Licensed Cube Distributors under Dennis Patent 18,667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Exploration..
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FACTS!
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IMPORTANT NOTICE

TO introduce 3 widely used M M & R perfume oils of extraordinary merit and great economy, they are offered, for a limited time only, in 5 lb. QUANTITY AT THE 1000 lb. PRICE.

SAVINGS OF 20% TO 35%
can be realized by ordering now

FOR INSECTICIDES

PERFUME OIL SWEETGRASS M M & R—conceded to be uncommonly effective for use with Lethane Base insecticides. Use in quantity of 1 oz. to 16 gal. with Lethane 384 and 1 oz. to 30 gal. with new Lethane 384 Special.

PERFUME OIL KEROSPRAY BOUQUET B. L. S. (Lilac character) is one of the most widely used perfume oils for pyrethrum fly sprays. With ordinary kerosene use 1 oz. to 3-5 gal. With odorless petroleum distillates use 1 oz. to 5-10 gal. Perfectly soluble in kerosene of all types.

FOR LIQUID SOAP

PERFUME OIL LILAS BLANC L. S. Dissolves clearly and easily in 15% Liquid Soap solution. Use 1 oz. to 500 lbs.

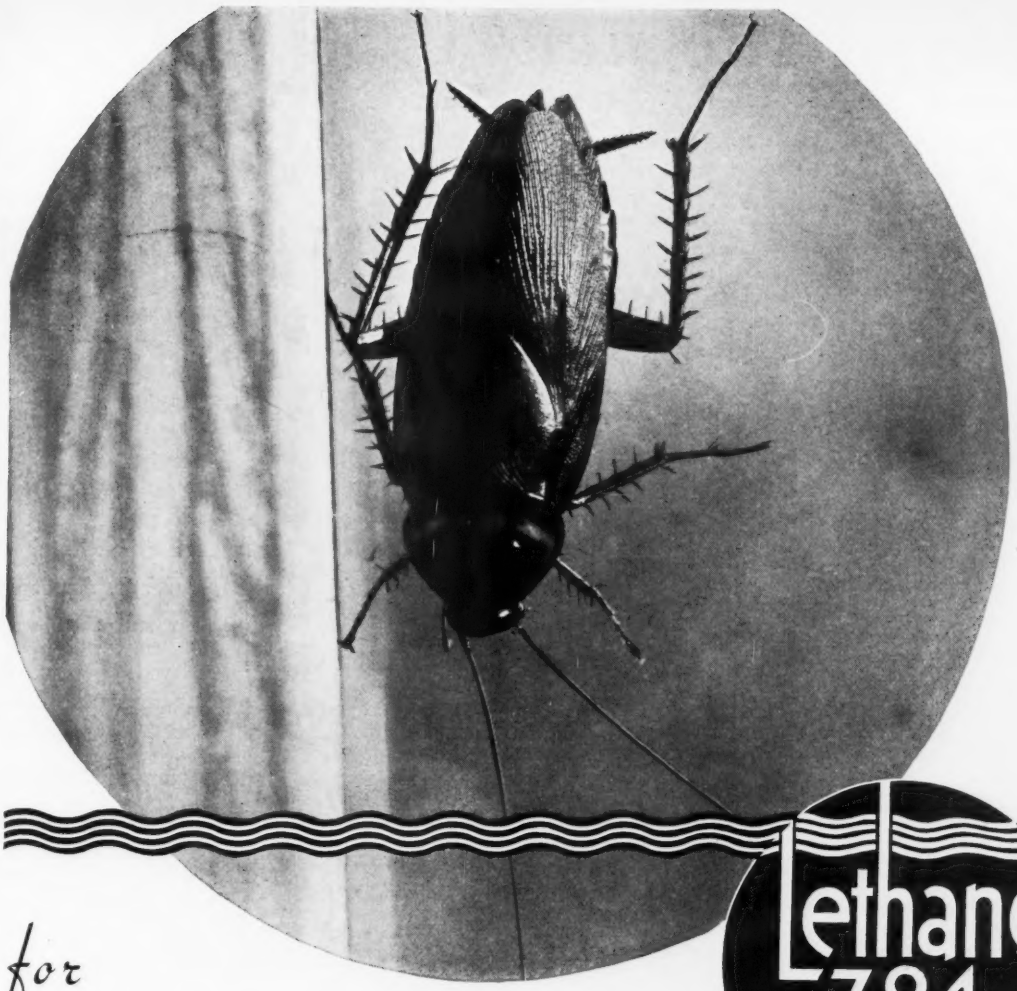
This offer subject to withdrawal without notice.
M M & R Catalog Sent on Request

MAGNUS, MABEE & REYNARD, Inc.

Essential Oils Since 1895

16 DESBROSSES STREET **NEW YORK CITY**

Offices and Warehouses in CHICAGO at 180 N. WACKER DRIVE • In CANADA—RICHARDSON AGENCIES, Ltd., Toronto



Lethane 384 Special

Synthetic Insecticide Concentrate

for

THINGS THAT CRAWL OR FLY

Consumers judge your insecticide by its killing power. Therefore you should carefully consider the killing power of the insecticidal agent you use. Lethane 384 Special has this property in unequalled measure. In addition, its use entails no problem of odor or irritation, it is uniform and stable, it is inexpensive to use and its supply is assured. These are the reasons why Lethane 384 Special is in such demand for things that crawl or fly.

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The BLUE BOOK costs SOAP subscribers nothing, and if your subscription is paid up as of March 1st, a copy will be set aside for you. Do not let your subscription lapse. A limited number of additional copies are available to new subscribers. If you want one, your check for $3.00 ($4.00 foreign) will cover a subscription to SOAP for one year and will insure your receiving a copy of the new 1939 BLUE BOOK.

Read What Subscribers Said About Last Year's Blue Book

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Contents of the New 1939 BLUE BOOK

Buyers Guide Listing everything readers of SOAP buy, —raw materials, machinery, packaging materials, bulk soaps, sanitary products, accessories, etc., with a comprehensive list of leading suppliers of each item.

Toilet Soap Manufacture A discussion of manufacturing problems from the dried chips to the finished soap cake.

Soap Perfuming A review of the eight principal types of perfuming materials, with comments as to the specific difficulties encountered with each in the perfuming of soaps.

Glass Cleaners A review of the composition and use of the liquid, paste and solid types of windshield, window and glass cleaners.

Moth Specialties A discussion of moth products of the powdered, cake and liquid types, with comments on the advantages and limitations of each.

Hand Soaps A review of methods and formulas for the manufacture of hand cleaners, including the paste, powdered, cream, liquid and bar types.

Wax Polishes Results of a laboratory investigation of a dozen samples of wax polishes, with comments on how the choice and percentage of ingredients affect such qualities as gloss, hardness of film, water resistance, color, odor, etc.

Peet-Grady Test The first and only scheduled publication of the new and revised 1939 method for the testing of insecticides. Other articles in the testing section will include the Seil method for estimation of pyrethrins, the Gnadinger method and the Holaday method. The complete text of the F.D.A. method for the testing of disinfectants will also be included.

Specifications A resume of the general and detailed requirements as issued by the U. S. Federal Specifications Board for soaps, polishes, waxes, cleaners, chemicals, etc. Specifications of the Natl. Assn. Insecticide & Disinfectant Mfrs. for insecticides and disinfectants.

Index to SOAP A complete composite index to the monthly issues of SOAP for the years 1934 through 1938, making it easy to locate valuable technical information and reference articles.

Oil and Fat Tariff and Excise Rates

List of Association Officers

Water Hardness Statistics

Sample Fly and Stock Spray Labels

World Soap Consumption Statistics

Advertising Rates Will Be Supplied On Request

to our library. We have found it particularly helpful in the selection of sources for raw materials of standards that meet our particular requirements."

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Made by us in our own factory FREE FROM FOREIGN BY-ODORS.

Prices in line with Quality—Spot or Contract Basis.

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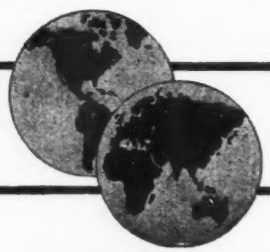


A 3-WAY REPACKAGE *Sales Pusher*

SOLVAY PARA-DICHLOROBENZENE

TRADE MARK REG. U. S. PAT. OFF.

MOTH KILLER...

INSECTICIDE...

Powerful DEODORANT...

You check the grade ...we'll do the rest

***A** right size for your every repackaging requirement!*

As a repackaging product, Solvay Para-dichlorobenzene pushes sales because it meets the demands of the market . . . brings a good price because it suits the customer's requirements.

Solvay Para-dichlorobenzene has the advantage of being a three-way sales pusher . . . MOTH KILLER . . . INSECTICIDE . . . POWERFUL DEODORANT. It goes over in all three of these markets!

In transparent packaging, patent cans, and mixed with attractive colors, Solvay Para-dichlorobenzene satisfies all the repackaging demands for a constantly uniform quality product to sell under your own label.

These are actual size photographs of 10 grades of Solvay Para-dichlorobenzene. In the coupon, place a check in the box number of the grade size of which you would like to receive a sample and send it in today. Or, if you are uncertain of your requirements, our technical staff is ready to help you select the most efficient grades for block manufacture or for other particular purposes.

1	2	3	5	6	7	8	9	10	11

SOLVAY SALES CORPORATION
40 Rector Street New York, N. Y.

Gentlemen: Please send me a sample of Solvay Para-dichlorobenzene of the grade I have checked off above.

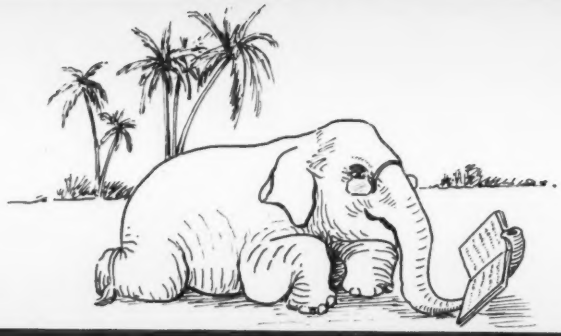
Name.....

Address.....

City..... *State*.....

Dept. Aj 2

DON'T BE FORGED



Bac-Trol is the newest and finest in germicides.

And it has a phenol coefficient of over five.

Its odor is the most delightful and refreshing.

Resulting in easy, profitable and repeat sales, so

Drop us a card today and let us

Send you a free sample—you'll like it.

Wholesale Trade Only

BAIRD & McGUIRE, INC.

ST. LOUIS, MO. HOLBROOK, MASS.

Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

SOMEWHAT unique in legislation is a proposed amendment to the State of California insecticide law which specifically releases manufacturers from responsibility for possible injury where a product is misused or used in some manner which is at direct variance with the recommendations on the label. This proposed amendment puts a degree of responsibility on the user, the responsibility that where he is using a product of known dangerous composition, he must exercise common caution and care. To us it appears to be a good precedent, dictated by common sense. No manufacturer of insecticides should be wholly responsible for the heedless, careless use of his products any more so than a maker of knives or razors.

ON THE subject of the germicidal value of soap, we have tangled again with a newspaper columnist, this time a doctor who runs a syndicated health column at the office of the *Chicago Tribune*. We told the doctor that as far as we had been able to find out, soap as such does not have germicidal properties. He came back at us and very pointedly implied that we were ignorant and behind the times,—and stated that he does "not know of any type of infection,—virus or bacterial,—which will not yield to the proper application of soap, water, and elbow grease." As his final clinch to the argument, he pointed out how doctors scrub up with brush and soap before an operation. Obviously, he confuses *mechanical* removal of germ life with actual germicidal properties. So, on the same basis, we wonder why the good doctor does not likewise announce that the brushes used in the scrubbing also have germicidal properties. Why neglect the brush and give all the credit to the soap?

IF EVER the legislatures of the country were of a mind to restrict the sale of household products used for the control of insects and the maintenance of sanitation, it is today. The requirements for safeguarding the public through registration and restricted labeling are obviously becoming more stringent as time goes on. Although we are inclined to question the sincerity of some of the laws and believe that the emphasis is more on the cash income than on safeguarding the public, the fact remains that this type of law continues to spread from state to state. Already some ten or twelve new state bills have been introduced this year, and there are some thirty state legislatures yet to be heard from. Right now, the legislative situation is somewhat muddled and the significance of some of the new bills is not clearly defined. Manufacturers are urged to watch closely for proposed legislation in their home states, and to protest promptly if they feel that requirements are unduly severe or unfair. One protest from a "home" manufacturer is usually worth ten from outside of the state. The trade associations will do their part if they receive the cooperation of "home" manufacturers.

DRIP MACHINES

. . . *are they coming back?*

WHEN the subject of drip machines is mentioned in the sanitary supply trade, it seems to be like putting a fuse to dynamite. For some reason or other, drip machines and their use and efficiency are not subjects which can be discussed calmly and quietly. Their mention seems to call for rising tempers, harsh thoughts and rough language. And thus it was when we recently asked a dozen well-known firms in the sanitary supply field for their ideas on drip machines and the drip machine business, that we learned how really hot under the collar this subject could make some people feel. One firm wrote back and said that "such a discussion is loaded with dynamite, and you are evidently trying to set it off by publishing a symposium on drip machines." This, we deny, but if there is a subject which can cause so much heat, then maybe it should be dragged out in the open, allowed to cool off, and be examined. We have been berated for starting this argument all over again, and now we shall probably be blamed for carrying it on. Whether drip machines are good or bad, efficient or not, we shall undoubtedly be accused by both schools of thought of taking sides with the opposition.

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Although there was a wide variation in replies, it appeared that a majority were of the opinion that drip machines in newer and more improved types are staging a comeback at the present time and have in the past two years gained considerable new popularity. A couple of firms refused to answer the question, "Are drip machines coming back?" — because they stated that they "were partial" to other means of deodorization. But, we ask, what has that got to do with giving an honest answer to an honest question? Surely their men must call on the trade and obtain information on the subject.

Several firms called our attention to the Public Health Service bulletin of ten years ago which condemned drip machines, and apparently took it for granted that because such a bulletin had been issued, the oracle had spoken and the subject was closed. Well, we might add, if that bulletin was based upon as accurate data as some of the recommendations for disinfection put out during the past two or three years by public health officers at the time of the middle-west and New England floods, then the said bulletin should not command great respect. And furthermore, that was ten years ago. Because some firms may have made unwarranted claims and sold bad equipment then, giving unjustly perhaps a whole trade a bad name, what has that to do with an abstract discussion of the merits of the situation today? We hold no brief for or against drip machines, but we do hate to have the "holier-than-thou" boys try to scare us off the track by referring to a copy of that old report like it was a decision of the U. S. Supreme Court,—a report, incidentally, with which we have been quite familiar for ten years.

This discussion is not aimed to be an argument between drip machines and other forms of deodorization, — particularly blocks, whose effectiveness and wide use are quite generally admitted. It merely undertakes to look over the present day situation in drip machines, about which very little has appeared in the public print in recent years. What oils are most suitable? Has the style in odors changed, and what types are most popular? Where are drip machines suitable and where not? What are the advantages and the disadvantages? Is it possible to

produce drip fluids with disinfecting value in practical use? Have there been mechanical improvements in the newer equipment? These and others were the questions asked. The replies showed a wide variation.—and many questions were answered which were not asked.

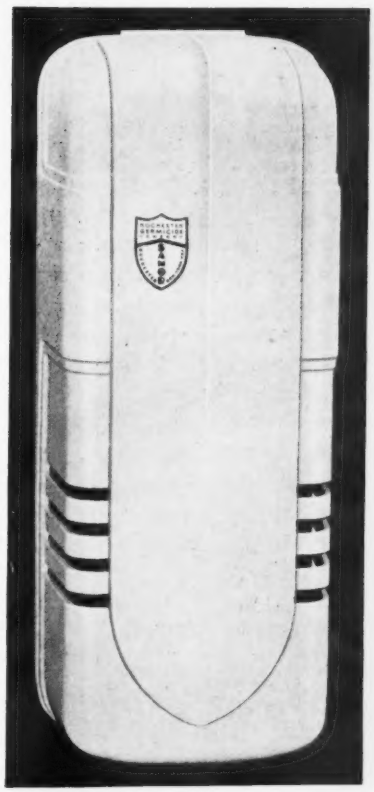
First, the type of oil base most suitable for drip fluid was held to be a cut between light paraffin oil and kerosene of light straw color to water white. A light straw paraffin oil with a viscosity between 60 and 80 was stated to be best for some machines. Although some answers held that emulsifying-type fluids might eventually be suitable in view of the now available high-coefficient disinfectants and new type wetting and emulsifying agents, no commercial developments in this direction were reported. It was along this line, as indicated by several firms, that the possibilities of a disinfecting drip fluid might lie, although it was also pointed out that because of the peculiarities in the use of these fluids, actual disinfecting value was of little significance. Two firms hinted that they were doing some investigating into the possibilities of high-coefficient emulsifying fluids.

A changing taste in drip fluid odors has been noted during the past couple of years. Whereas mirbane used to be the most widely used,—probably because it was the cheapest,—the demand for pine type odors, wintergreen, lemon, and even rose has been on the rise. Eucalyptus still appears to hold a good part of its popularity of past years. However, it seemed to be agreed that the old-type combination of mirbane and rank kerosene, — referred to by one firm as "saloon toilet odor,"—is close to the exit gate. It seems that one of the chief drawbacks to some of the new odors is their lack of odor strength. This it is believed is why eucalyptus and its combinations still hold their position. The fact that drip machines,—the newer, better-appearing styles,—are now finding use in better type office buildings, hotels, restaurants, etc., probably accounts for the demand for better odors, particularly ones which *do not* resemble the old drip fluid odors.

Contrast the old-type drip machine shown directly above which was much in demand twenty years ago, with the two modern style devices which are representative of the better deodorizing equipment being installed today.

Where are drip machines suitable for use and where not? The answers to this question were generally that drip machines may be used with any type of urinal or toilet bowl. It was indicated that in toilets and in urinals of the bowl type where a quantity of water was always present, that the drip fluid spread out in a thin layer on the surface of the water and gave a larger area from which the odor might be diffused into the room.

WHAT are the advantages and disadvantages of drip machines in practical use? The answers to this question were wide and at considerable variance. One firm pointed out that the cost of deodorizing by drip machine was high,—more so than other methods, and not as efficient. Two others stated the exact opposite in this respect. By those who sell both drip machines and blocks, the an-



DRIP MACHINES

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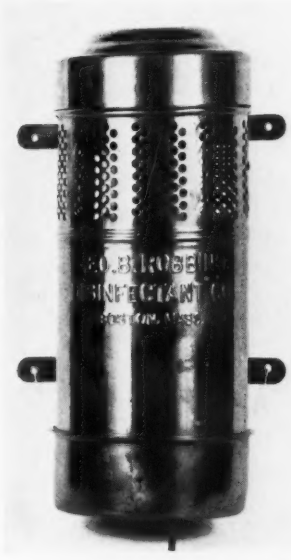

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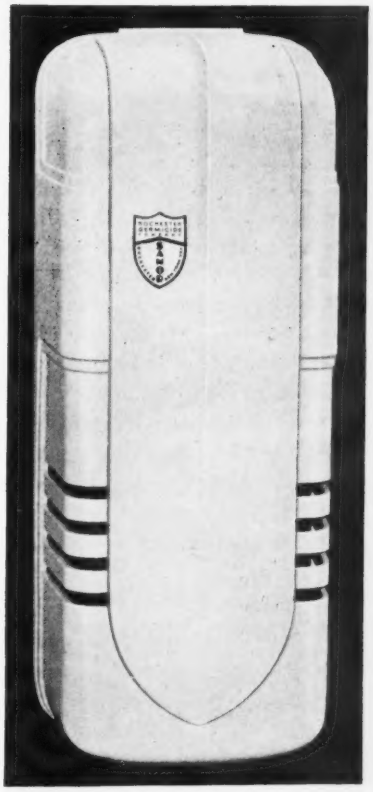

swer was that there was very little choice in deodorizing efficiency and that it depended upon the materials used and the conditions. One manufacturer stated that drip machines are subject to considerable vandalism, ripping of tubing off walls and smashing of the containers. It was also pointed out that where toilets are not in frequent use, particularly in certain types of urinals, the drip fluids stain the equipment. The spreading of the drip fluid on the surface of the water was held to give better deodorizing through more rapid diffusion of the odor. Drip liquids were stated to be a fire hazard,—and an old trick of salesmen desiring to emphasize this, was to pour out a small amount of the fluid and light it. With a drip machine, the fluid goes directly to the source of the deodorizing problem and does its odor covering at the point in the room where it is most needed. And thus it went,—no two views exactly alike.

As to the newer type drip machines on the market today, it appeared practically unanimous that they represent a vast improvement over the machines of ten years ago. The old machines which on the whole had to be cheap affairs, ran into all sorts of operating difficulties, were poorly constructed, and were one of the main reasons why this type of equipment came into much disrepute. The newer types which are much sturdier, better designed, and likewise more expensive, do not present anything like the problems to the consumer which were common with the older styles. The tendency of manufacturers to put out their own machines and their own fluids designed especially for these machines has tended toward improved operation. In the old days when any fluid was sold for use in any machine, the consumer never knew what might happen. Some machines would drip a pint in a day and others would not drip at all. But, it appears to be generally agreed that the old order has changed.

CHECKING back over the expressions of opinion which were received, there is no doubt but that the question of disinfecting value caused very considerable excitement. One prominent manufacturer stated that he thought drip machines to be "fairly efficient as a deodorant, but don't let anyone tell you bright stories about their disinfecting qualities. A moment's reflection will show you that drip fluid does not come in contact with any part of the fixture touched by the human body,—so why disinfectant?" Another stated: "Assuming that a drip fluid would have disinfectant value, just what would it disinfect the way it is used?" Well, there might be an answer to this question, but his next statement makes it very difficult. He continues: "Yet there are machines on the market marked *automatic disinfectors*."

Of course, we all know that whether a drip fluid did or did not have any disinfecting value, that it cannot disinfect the toilet seat, or the wall or the ceiling, or any other place where it does not touch. Apparently the *thought* behind the disinfectant idea has been that if a drip fluid accumulated in a toilet or urinal in sufficient concentration and if it were emulsifiable and if it had a sufficient disinfecting value, it might act directly on any organisms present in accumulated organic matter, and prevent further odors by stopping decay of such organic matter. We state that we *believe* that this is the thought behind any possible disinfecting ideas if a product in dilute solution might happen to have actual disinfecting value. We all know that regular petroleum drip fluids have no such disinfecting value and that any such claims are untrue. But, possibly some of these references to disinfecting value may have *ideas* involving high phenol coefficient disinfectants which are emulsifiable. In fact, several manufacturers made references to this type of product as a *possibility*, but stated that as yet such fluids did not work properly in the machines.

We think that the case is summarized well by one of the pioneers in the sanitation field, who states "The function of the drip machine should still be confined to its deodorizing purpose, because claims for a drip fluid with real disinfecting properties would probably never be sanctioned by government authorities in Washington. Their main objection would probably be that a mere discharge of such a drip fluid consisting of about one quarter gallon, which is the monthly quantity for a drip machine, into a sewer system, together with the high dilution with water caused by continuous flushing, would not be considered of sufficient strength to kill or inhibit the growth of micro-organisms irrespective of any coefficient that such drip fluid might possess . . . The proper functioning of a drip machine depends on the capillary action of a wick, and experience has proved that a high testing drip fluid of aqueous nature or of emulsion type would not work satisfactorily . . . We have been marketing a water soluble drip fluid for over ten years with a coefficient of about 2.5 but we have never sold it with a coefficient claim on the label for the reasons mentioned above."

And thus it goes,—the discussion could carry on indefinitely and fill a book. Out of all the facts presented, we glean the majority opinion that drip machines are staging a come-back, but on a new basis of better equipment and better fluids. But so interesting are the comments in the answers to our questions that we shall extract parts of the various letters and publish them in the next issue of *Soap*.

No "Derris Resinate"

The term, derris resinate, used by LaDue, refers not to a salt or to an ester of a resin acid but to a derris extract. It should be so designated. A true derris resinate is not known. R. C. Roark. *J. Econ. Entomol.* **31,** 545 (1938).

Sanitation In Fur Farming

The use of disinfectants and insecticides in insect and disease control

By Dr. Ronald Law*

Chief Sanitary Officer, Canadian Natl. Ry.

MORE than a million silver fox and at least 300,000 mink pelts are offered for sale annually through the various channels of the fur trade. These figures represent ranch-bred animals only, and do not apply to the annual catch brought in by the trappers from the trap lines. The value of ranch-bred skins amounts to 50 million dollars yearly. Possibly you will agree that these figures are rather astonishing in view of the fact that the greater part of this development has taken place since 1920.

In 1895 Charles Dalton and Robert Oulton, natives of Prince Edward Island in Canada conceived the idea of attempting to raise silver black foxes in captivity, commencing with a small handful of animals which had been trapped in the wilds. They were quite successful and gradually the industry grew from this small beginning, and now it has spread all over the American Continent and Europe. Particularly, is this true of Norway, Sweden and Russia.

The development of mink farming is more recent, having taken place largely during the past ten years. We can confidently count that within three years the production of mink pelts will have passed the million mark. I draw your attention to these figures for there are still individuals who are of the opinion that fur farming will not last, and that the market is not worth developing or worthy of consideration. If you have any doubts on this score you will have them quickly dispelled by consulting with reliable members of the raw or retail fur trade. Early in December in Montreal the auction sales of the season are held. Buyers from many different countries are in attendance and the top prices received for mink and fox pelts are for ranch bred animals. Ranch bred mink have consistently topped the market for the past five years and the cream of the crop is brought to New York. Ranch bred animals are more uniform in color, texture and quality than wild ones. So the buyer does not have difficulty in matching the skins for fur coats that he experiences with wild ones.

However, it is undeniable that fur farming attracted a number of get-rich-quick individuals who were no credit to the business and who by their methods of abstracting money from an innocent public, and which was too often put into fake promotion schemes, did a great deal of harm, and many people gained the impression that fur farming was just another racket. These days are past and, while the price of silver foxes has declined with the increasing supply, fur farming today is as stable a branch of agriculture as any other form of live stock raising.

Insecticides and disinfectants are absolutely essential to the maintenance of an efficiently conducted fur farm. Fleas are recognized as a source of annoyance and irritation to foxes, and, if present in large numbers, are responsible for very unthrifty conditions. The serious extent to which fleas may be responsible for loss of blood, which, in turn, produces a severe anaemia, is not generally recognized. In an investigation carried out at the Ontario Experimental Fur Farm, it was found that fleas were responsible for a severe anaemia in foxes, and that the red corpuscles dropped from an average of nearly 7,000,000 per C. Mm. to an average of 4,000,000, while the Hb. dropped from 65 per cent to 38 per cent. These findings clearly indicate that the flea can be a dangerous parasite, if present in any numbers. The pronounced reduction in red corpuscles and haemoglobin leave the fox with little or no resistance towards adverse conditions of any kind, which include internal parasites, infectious diseases and tainted food. Moreover the growth and development of foxes is seriously affected, and the condition of adult breeding stock reduced greatly. Very heavy infestations may even lead directly to the death of an animal, particularly being true of young pups.

Another common condition which calls for the mass treatment of the pup crop is ear mites. These tiny parasites are so commonly found inhabiting the ears of foxes that treatment to check or eradicate them is a routine practice. In the earlier days of fox ranching before we recognized the prevalence of this parasite, a fox would suddenly lose all sense of direction, the head would become twisted with convulsions,

* Address before 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec. 1938. Dr. Law is a widely-known authority on fur farming and fur bearing animals, a director of the Ontario Experimental Fur Farm who has spent many years of research in the field.

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frothing at the mouth and snapping at imaginary objects. For a period we wondered if this condition was some form of rabies, but, when the true cause was recognized, we found by treating the ears of the fox once or twice a year with a disinfectant we were able to keep the condition down to a minimum.

Apart from these two common conditions calling for disinfectants and insecticides, the kennels in which the pups are born must be sprayed with a disinfectant at least twice a year to keep them in a sanitary condition. The feed dishes are also washed at regular intervals in a disinfectant solution. The progressive rancher also uses disinfectants freely in the feed house. Meat and bone grinders, feed mixers, refrigerators, feed pails, used for distributing the food around the pens once it has left the feed house, require constant disinfection. Food poisoning due to a variety of causes is a common disease among foxes. In some cases only two or three animals may be affected, while in others, every animal on the ranch may show symptoms, and very often the rancher believes that distemper or some other infectious disease has broken out. If the outbreak is due to bad food, obviously all of the articles referred to in the preparation of the food become contaminated and, unless thoroughly disinfected, will continue to contaminate any fresh supplies brought into the ranch, and a thorough disinfection of all feeding equipment is necessary if the infection is to be stamped out.

I have been told by insecticide and disinfectant manufacturers that fur farmers are hard customers to sell. This is difficult to understand as the sanitary program outlined is not a fanciful one but is taking place daily on hundreds of ranches in Canada and the United States. If there is any reluctance on the part of fur farmers to buy insecticides and disinfectants, it is probably due to the fact that he has too often been the victim of that small percentage of unscrupulous individuals, which we find in every business and professional activity. The industry grew so rapidly from 1920 that there were not a sufficient number of trained men in the field to handle the problems which arose. This state of affairs inevitably encouraged "quacks" of all types and many useless and inferior insecticides and disinfectants were offered for sale, some of them almost entirely useless. A number of farmers attempted to make their own sprays and followed the advice of some "genius" who advocated a handful of pyrethrum flowers mixed with a gallon of coal oil. I have seen the effects of this mixture when applied to foxes. In the Fall of the year I have seen prime foxes, with the desired blue-black color and metallic shade of silver, turn into a nice brown color by the use of such mixtures. I am emphatically not in favor of home-made sprays. The need for fly sprays around fox and mink ranches is self-evident to anyone who has been in touch with the situation.

That flies are a menace to health is a well established fact which requires no elaboration, and, while I am not aware of any specific investigations incriminating the fly with the spread of food poisoning and dysentery on fur farms, it can be safely assumed that every effort should be made to keep them down to a minimum number. This is particularly true of the feed house, which obviously is the center of infection in food poisoning outbreaks. If there is a steady stream of flies passing from the cook house to the ranch and vice versa, the danger of flies being carriers of disease organisms is very great.

I believe you will find that the majority of ranchers keep up a constant battle against flies in the feed house. It is admittedly a difficult job to keep down flies in the breeding and pelting sheds on account of their open type of construction. In spite of the best sanitary precautions, a certain amount of uneaten food is left over and fecal material accumulates. However, by the use of sprays, disinfectants and fly traps, a great deal can be done to suppress the fly menace.

Those of you who have visited mink ranches will agree that in many cases the fly situation during the summer is rather appalling, and it is hardly an exaggeration to say it is sometimes difficult to see the animals for the flies, and any one, whose sense of smell is not completely dulled, is soon aware when they approach the vicinity of a mink ranch. At least, gentlemen, this is true of many ranches in Canada. I trust that it is an entirely different story with the ranchers over here. That odors and flies can be kept down to the point where they are not noticeable is a possibility that can be accomplished without a great deal of extra labor or expense.

On a small ranch which I am interested in, close to Montreal, by using shallow trays under the pens, and which are kept filled to about one-quarter of an inch in depth with a disinfectant, we have been able to overcome both difficulties. Any food which may fall through the wire bottoms of the pens drops into the disinfectant, likewise the excretions of the animals. In this way we prevent fly breeding and also keep down odors to the point where they are not noticeable. By using a little ingenuity and by spending what are really nominal sums on disinfectants and insecticides, one can do a really effective job in controlling flies.

The trouble in many cases is that the rancher has come to consider they are a necessary evil about which little or nothing can be done. Such an attitude is of course extremely difficult to overcome, and no doubt requires a great deal of persuasive salesmanship to overcome it.

As a purchaser of sanitary supplies, the farmer has to depend largely upon the reputation of the manufacturer who makes the goods and the salesman who sells them. Desirable as food and drug acts may be, standardization of products and all other machinery to protect the consuming public, these measures will never place reliability and in-

(*Turn to Page* 117)

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Insecticide Analysis

The determination of pyrethrins in pyrethrum products, and of rotenone in derris and cube

By J. J. T. Graham*

Senior Chemist, Insecticide Division, F. & D. A.

PYRETHRUM has been used as an insecticide for more than a century, and although many chemists had carried on investigations, little was known regarding the active principles before 1924. In that year Staudinger and Ruzicka announced (Helv. Chim. Acta, 7, 177-259, 377-90, 406-58, 1924) that they had isolated the active principles, determined their chemical nature, and named them Pyrethrin I and Pyrethrin II.

The first method for the determination of the quantity of these active principles in pyrethrum flowers was proposed by Staudinger and Harder (Ann. Acad. Sci. Fennicae, A 29, No. 18, 1-14, 1927). These investigators used 500 grams of powder for the analysis and made the actual determination of the pyrethrins by two procedures; a titration of the liberated acids, and a determination of the nitrogen in the semicarbazone.

Tattersfield and Hobson (*J. Agr. Sci.* 19, Part II, 266-296, 1929) improved the methods and reduced them to a semi-micro basis. They recognized the fact that there are volatile acids in the pyrethrum other than the chrysanthemum monocarboxylic acid and introduced the procedure, which has been followed by later investigators, of extracting the distillate with petroleum ether as a means of separating the chrysanthemum acid from other volatile acids.

Seil (*Soap*, 10, No. 5, 89, 91 and 111, 1934) further modified the acid method. In his procedure, fatty acids and resins are removed by precipitation with barium chloride. He also changed the procedure for the separation of the chrysanthemum dicarboxylic acid. Seil's modifications shortened the method and made it easier to carry out, and as a consequence this is the most generally used of the acid methods.

Wilcoxon (Contributions Boyce Thompson Institute 8, 175-181, 1936) studied this method and showed that there was a loss in the distillation of Pyrethrin I from the acidified solution, and that successive distillations of the same portion caused further losses with each distillation. He concluded that the monocarboxylic acid is either not entirely volatile with steam or that it is partly destroyed by heating in the presence of the sulfuric acid in the still.

Pantsios (*Ind. & Eng. Chem.* Anal. Ed., 10, 386, 1938) also studied this phase of the method. He subjected a sample of pure chrysanthemum monocarboxylic acid to repeated steam distillations, twelve times in all, and obtained a loss on each distillation that averaged about ten per cent.

Distillation losses of approximately 15 per cent were obtained by Martin (*J. Agr. Sci.* 28, Pt. III, 456-471, 1938) in his studies on this method. However, by reducing the quantity of excess sulfuric acid in the distillation flask, he was able to get results that agreed with the mercury reduction method of Wilcoxon, which will be mentioned later. The work of Martin seems to indicate that the loss of pyrethrins during the distillation is largely due to the quantity of excess sulfuric acid present.

Seil also discovered a reaction of the chrysanthemum monocarboxylic acid with Denige's reagent that serves as an excellent qualitative test for the presence of pyrethrum in insecticidal mixtures. During the reduction of this reagent, the solution passes through a series of distinctive colors that are readily recognized even in very dilute solutions.

Ripert (Ann. Fals. 27, 577-595, 1934) has proposed a modification of the acid method which he claims will give more accurate results than either the Tattersfield or Seil Methods.

Gnadinger and Corl (*J. Amer. Chem. Soc.*, 51, 3054-64, 1929) proposed a method for pyrethrins, based on the reduction of an alkaline copper solution. In this method the reaction is caused by the part of the molecule common to both pyrethrins and therefore the method determines only the total pyrethrins.

A method for pyrethrin II based on the determination of the methoxyl content of the flowers has been proposed by Haller and Acree (*Ind. & Eng. Chem.* Anal. Ed., 7, 343, 1935).

Wilcoxon (loc. cit.) has developed a method for pyrethrin I

* Address before 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec. 1938.

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THIS manufacturer, like many others, is well aware that more and more of his customers are demanding an odorless insecticide base.

He knows that most insecticide users do not like odors. A few like one, a few another, but most none at all. They know that when an insecticide evaporates, the neutralizing odors come out one at a time — that an insecticide sprayed around a room doesn't smell the way it does in the can.

The exterminator knows, too, that after the perfumed compound evaporates, the odor of an untreated kerosene becomes stale and musty.

That's why our friend above is using Atlantic Ultrasene as his base. He finds that Ultrasene evaporates readily, leaves no greasy residue, *no disagreeable odor*.

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based on the reaction with Denige's reagent previously mentioned. In this method an equivalent amount of the mercury sulfate is reduced and then separated as mercurous chloride and titrated with potassium iodate. Wilcoxon claimed that this method gave more accurate results than Seil's acid method. The reaction upon which it is based seems to be specific for pyrethrin I, but we have found that the mercurous chloride precipitate may be contaminated with unsaturated organic compounds that also titrate with the iodate solution causing high results.

Holaday (*Ind. & Eng. Chem.* Anal. Ed. 10, 5, 1938) modified the Wilcoxon procedure in that he precipitates the reduced mercury in the presence of acetone and washes the precipitate on the filter with acetone and chloroform to remove unsaturated organic compounds that cause errors in the titration.

The previously mentioned methods have all been developed for the determination of pyrethrins in the powdered flowers. Their determination in mineral oil extracts is more difficult. These products contain various essential oils as perfumes, and in addition many of them contain other insecticidal ingredients.

Vollmar (*Ind. & Eng. Chem.* Anal. Ed. 3, 110-2, 1931) suggested a method for oil-pyrethrum sprays, but it is not applicable to those that contain perfume. Seil and Ripert modified their methods to make them applicable to oil-pyrethrum spray materials, either perfumed or unperfumed. Holaday's modification of the mercury reduction method makes it applicable to commercial oil-pyrethrum sprays.

When we consider the analysis of commercial products, which is the class of materials with which we are most concerned, we are limited to the Ripert, Seil, and mercury reduction methods, and of these we will consider only the latter two.

There are several sources of error in the acid methods. Seil directs that the sample be subjected to a preliminary steam distillation to remove interfering substances. There is a difference of opinion among those who have investigated this phase of the determination, as to the loss of pyrethrins during the distillation. Ripert claims there is no loss due to this cause. Doctor Cox of the California Department of Agriculture states (Circular letter issued Oct. 31, 1936) that work in his laboratory indicates that losses of 5 or 6 per cent may occur in the steam distillation of samples containing approximately 100 mgs. Investigations by the present speaker (*Ind. & Eng. Chem.* Anal. Ed. 8, 222, 1936) showed losses up to 25 per cent on samples containing about 75 mgs. per 100 cc. No doubt these variations are due to different procedures during the steam distillation. Seil's method says: "The flask is heated and steam passed through until the distillate has no perfume odor." Your speaker, in his investigations, heated the flask during the whole period of the distillation, while on the other hand Cox states that there should be no heat under the flask containing the sample.

Several writers have called attention to the fact that the oil solutions may contain free acids which should be removed before the saponification of the pyrethrins, and concentrations of alkali solutions from tenth normal to fifty per cent have been used for this purpose.

The speaker, as Referee on Insecticides for the Association of Official Agricultural Chemists, has this year supervised a collaborative test of the Seil and Mercury Reduction Methods using a sample of pyrethrum powder and a sample of oil-pyrethrum spray. This latter sample also contained by volume, Lethane 3 per cent, an essential oil solution of derris resins 1.0 per cent, and oil of birch 1.5 per cent. On the sample of powder there was generally good agreement between these two methods, but on the oil-pyrethrum spray the results by the mercury reduction method were more consistent than those by the Seil method and more nearly approached the correct result.

We have been using Holaday's modification of the mercury reduction method (loc. cit.) in the Food and Drug Administration laboratories for the past year for the determination of Pyrethrin I in oil-sprays and have had very good results. It is our opinion that this method offers less chances for errors than others that we have tested.

Derris and Cube

DERRIS powder, cube powder, and extracts made from them have been used in insecticidal materials for a number of years, but it is only within the last decade that substantial progress has been made in the analysis of such preparations.

The insecticidal activity of these materials is due to rotenone, and other active ingredients such as deguelin, toxicarol, tephrosin, etc. In the analysis of derris and cube more attention has been devoted to the determination of rotenone than to the other ingredients.

The usual methods for this determination depend on the extraction of the rotenone from the product with a suitable solvent and crystallization from the same or a different solvent. Ethyl ether proved unsatisfactory as a crystallizing medium and Jones in 1933 proposed the use of carbon tetrachloride (*Ind. & Eng. Chem.* Anal. Ed. 5, 23-26, 1933) and since that time this has been universally used as the crystallizing medium. Other solvents such as chloroform, trichloroethylene, benzene, ethyl acetate, etc., have been used for the extraction and a number of different procedures have been employed.

Extraction of the sample with carbon tetrachloride in a Soxhlet apparatus has been widely used, but this has several disadvantages. It is difficult to get complete extraction with this solvent on some samples even when continued for as long as 24 or 48 hours. On one sample from which it was especially difficult to get complete extraction it was found that after a treatment of 48 hours with this solvent, boiling benzene extracted 1¼ per cent of additional rotenone. During the extraction,

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acid is formed by the reaction of the carbon tetrachloride with moisture in the sample and more or less decomposition of the rotenone takes place, so that after about six hours this decomposition proceeds faster than additional extraction, and therefore if the process is long continued may result in decreasing the quantity of rotenone recovered. We have found that if the flasks of the Soxhlet extractors are changed after three hours and the extraction continued with fresh solvent for 24 or 48 hours this decomposition is avoided and higher results obtained than if the extraction is made for one period of 6, 24 or 48 hours.

In the search for a reliable method for rotenone determination the speaker, in collaboration with H. A. Jones, tested a number of methods using different solvents and finally selected a procedure that is a combination of Beach's chloroform extraction method with Jones' crystallization and purification procedure. (*J. Assoc. Off. Agr. Chemists*, 21, 148-151, 1938). Using this method, working entirely independent of each other on 35 samples varying in rotenone content from 0.4 to 10.0 per cent, the average difference between the results of the two workers was only about 3.5 per cent. (about .2 per cent on a sample containing 5 per cent rotenone).

Jones has recently developed another method based on the fact that rotenone reacts with dichloracetic acid to form a solvate containing two molecules of acetic acid. In this method the rotenone is extracted and crystallized as in the Jones and Graham procedure previously mentioned. Then, without drying or weighing, the crystalline residue is converted into dichloroacetic acid solvate, in which the acetic acid is then titrated, and the percentage of rotenone calculated.

As referee on insecticides for the Association of Official Agricultural Chemists, the speaker has supervised the collaborative testing of these two methods on samples of derris and cube powder. The results by the crystallization method, which was adopted as a tentative method in 1937, were generally satisfactory. The titration method was sent to the collaborators at a much later date and due to the lack of time, insufficient data were received on which to base a conclusion as to the merits of the method. The titration method is based on a sound principle and we believe that further testing may prove its desirability.

The mixing of other ingredients with derris and cube powders makes the determination of rotenone more difficult. We have developed a modification of the crystallization method for its determination in the presence of sulfur in which we weigh the rotenone and contaminating sulfur and then correct for the quantity of sulfur contained in it. The titration method should prove especially valuable for the determination of rotenone in such samples since with it there is no necessity for the purification of the rotenone solvate as in the crystallization procedure.

This method will soon be published in the Analytical Edition of *Industrial and Engineering Chemistry*, and it is our purpose to give it a thorough test in comparison with the crystallization method.

Plans for Future Work

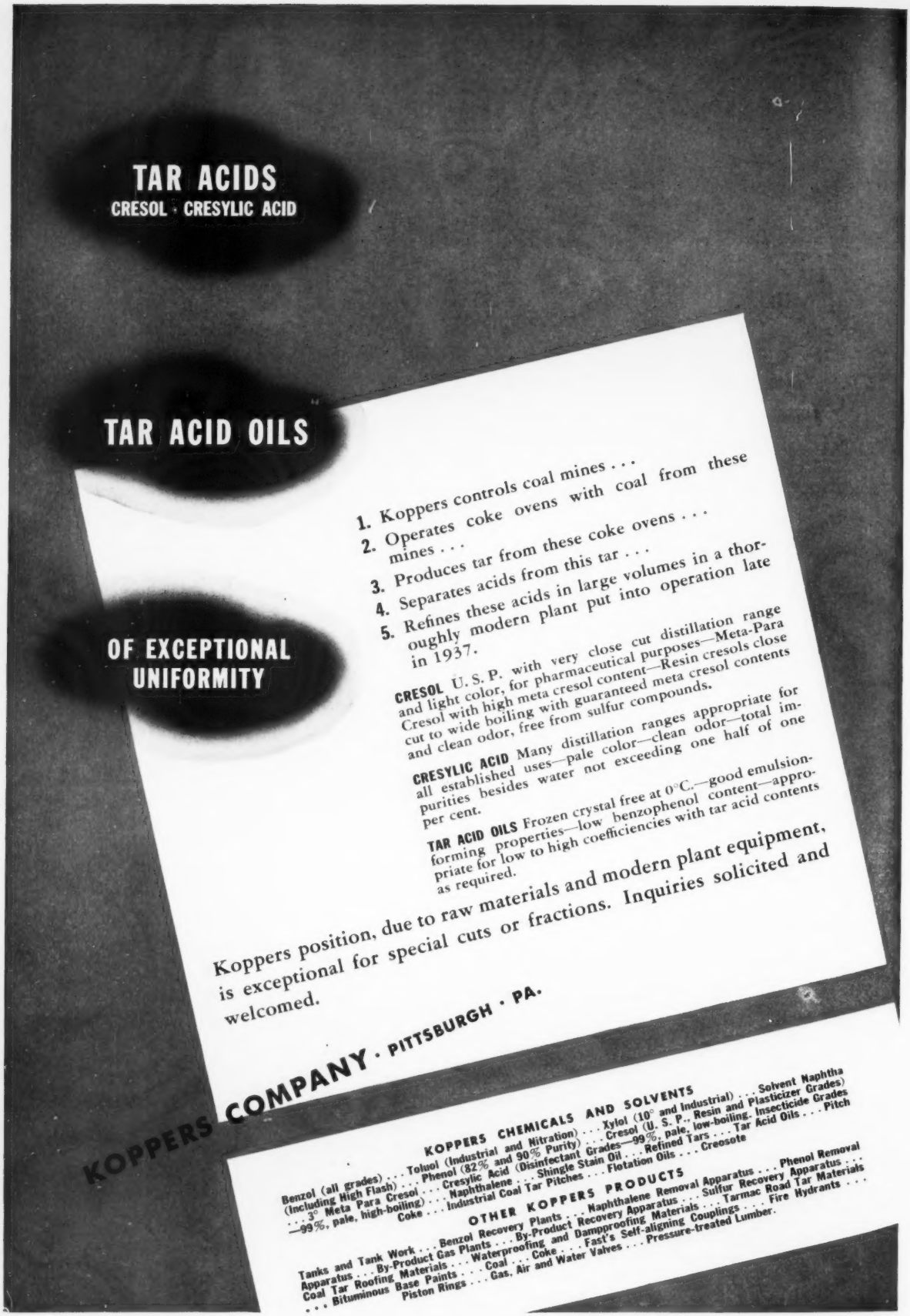
IT has previously been stated that the speaker is referee on insecticides for the Association of Official Agricultural Chemists, and at this point it would probably be well to mention the procedure employed by this association in its study of methods of analysis. At the annual meeting held in November of each year, the decision is made as to what subjects are to be studied during the following year. Many of these are general projects continued from year to year, taking up new phases or products as necessity seems to indicate. Referees are appointed to supervise the study on each subject. It is the duty of these referees to investigate various methods and decide which are the most promising as to accuracy and general desirability under the conditions for which they are to be used. In many cases the referee, as a result of his preliminary studies, will modify the methods somewhat to make them more suitable for the work under consideration. Having decided on what appears to be the best procedure or procedures to follow, the referee then sends carefully prepared instructions together with uniform samples of the product under consideration, to collaborating chemists in various parts of the country. These chemists make analyses of the samples following the directions sent them by the referee and report their findings to him. When these reports, together with any comments the analysts choose to make, are received the referee prepares his report and makes recommendations to the association.

The association designates their methods as "tentative" or "official." In order for a method to attain the "official" status it is necessary for it to be adopted as "official" at two annual meetings of the association. Methods having this status are those whose accuracy is considered to be of a high order. Tentative methods are those whose accuracy is not considered to be of the same high degree as "official" methods, but which are the best for the purpose known at the time of their study. Methods which have had only one action of the association toward their adoption as "official" are also known as "tentative" until they have received the second adoption as "official."

Holaday's modification of the Wilcoxon mercury reduction method for "Pyrethrin I" and the Jones-Graham procedure for rotenone in derris and cube powder were adopted in 1937 as "tentative" methods.

Under instructions received at the recent meeting held in Washington, it will be my purpose as Referee on Insecticides during 1939 to conduct a collaborative study of the chloroform extraction method and the Jones titration method for rotenone in derris and cube products; also to conduct a collaborative study of the Seil acid method and the mer-

(*Turn to Page* 109)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Products Liability Insurance

By Clarence E. Cooper*

PRODUCTS liability is that form of insurance which is designed to cover the legal liability of the manufacturer or distributor arising from claims which result from the possession, consumption, handling or use of any merchandise or product manufactured, sold, handled, or distributed by the insured. Basically, it covers claims for bodily injuries to persons not in the employ of the Insured in connection with products sold to a purchaser for a consideration after the product is out of the care or custody of the Insured or his employees.

History tells us that products insurance was originated in England which is the birthplace of so many unique and unusual forms of insurance, about the year 1900, when "Poison Pie" insurance was offered to the public as a result of a rat poison being used by a bakery in making some pies of powdered sugar, with serious results.

It was not until approximately 20 years ago that the form of insurance now commonly known as products liability was first given serious consideration by American underwriters due to an increasing demand for it on the part of the public. About that time a manufacturer of carbonic acid gas asked whether liability insurance could be obtained to protect them in case that one of their cylinders exploded after it had left their premises. That company was engaged in extracting carbonic gas from the geysers in Saratoga Springs and sold it in steel cylinders to druggists and confectioners who used the gas in the making of soda water. The insurance was obtained, but most casualty insurance underwriters looked askance at insurance to cover claims on a product designed for human consumption and also involving an explosion hazard. That was the first experience our firm had in the arrangement of products insurance.

The demand for this insurance has increased steadily as is indicated by the following data compiled by the National Bureau of Casualty and Surety Underwriters from classification experience reports of Stock insurance companies:

Year	*Premium*	*Loss Ratio Per Cent*
1924	$115,500	40
1929	$672,000	44
1933	$1,010,000	76
1934	$1,334,000	57

The premium income is considerably higher today, but the loss ratio is far from satisfactory and when it is considered that the permissible loss ratio of an insurance company is 51 per cent of premiums, it is obvious that this is a class of insurance which Underwriters accept only conservatively.

In former years, the trend of the law was to encourage rather than to handicap the expansion of business. But in more recent times, the courts or I might say the verdicts of juries, have been more liberal, reflecting the attitude of the times. Under common law, there are three legal theories available for the protection of the public which consumes or uses the products. First, the seller can be held liable because of an express or implied warranty thereby contracting to supply a fit product and did not fulfill the contract. Secondly, on the grounds of negligence, the party who is responsible for a defect or impurity can be held liable if the failure to use proper care which is construed as negligence, was the direct cause of the injury. Third, if the consumer can prove that the distributor was aware of any weakness, deficiency or impurity in the product, he can be held responsible on the grounds of deceit.

The common law rules governing warranty have been adopted by the Uniform Sales Act which is in force in some 34 states. This Act provides that (a) where the buyer expressly or by implication makes known to the seller that he relies on his skill and judgment in the purchase of goods for a particular purpose, there is an implied warranty of fitness for that purpose, and (b) where the buyer purchases from the dealer by description, there is an implied warranty of fitness.

The Act further provides for the implication of these warranties regardless of whether the seller is a dealer instead of a grower or manufacturer. If a dealer is held liable for damages to an injured consumer, he may be able to recover from the grower or manufacturer. If an injured consumer can prove a breach of warranty on the part of the seller whether such warranty be express or implied, he may recover damages. In theory, there must be knowledge on the part of the purchaser and the warrantor in order to provide a basis for recovery, but the common law has been broadened by court decisions and manufacturers have been held liable to the final purchaser despite the privity of contract rule on the grounds that advertisements were construed to be warranties. Written guarantees, labels, all kinds of printed matter and even radio advertisements may be construed as express warranties where they are used to create a demand for goods.

The Uniform Sales Act defines an express warranty as follows:

* Address before 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec., 1938.

...for *Para Blocks* and crystals—

DICHLOROMES NORDA

for Paradichlorbenzene

Series A $1.00	*Series B* $1.50	*Series C* $2.00
Bouquet A	Bouquet B	Bouquet C
Lilac A	Lilac B	Lilac C
Rose A	Rose B	Rose C
Violet A	Violet B	Violet C
Sweet Pea A	Sweet Pea B	Sweet Pea C
Gardenia A	Gardenia B	Gardenia C

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SECTOROMES NORDA

for fly sprays

Priced at 50c and $1.00 per pound

Ask NORDA for further details.

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Los Angeles Office
2800 E. 11th Street

St. Paul Office
Pine and E. 3rd St.

Canadian Office
119 Adelaide St., W., Toronto

New York Office
601 West 26th St.

Southern Office
Candler Annex Bldg., Atlanta, Ga.

"Any affirmation of fact, or any promise by the seller relating to the goods, is an express warranty if the natural tendency of such affirmation or promise is to induce the buyer to purchase the goods and if the buyer purchases the goods relying thereon. No affirmation of the value of the goods nor any statement purporting to be a statement of the seller's opinion only shall be construed as a warranty."

Accordingly, any positive representation is sufficient to render the seller liable and it is not pertinent whether or not it was the intent of the seller to warrant.

It seems to be the rule that those statements of fact concerning his product contained in a manufacturer's advertisements are express warranties as to a consumer who, relying on those statements, purchases the product, and the vendor of food and beverages for human consumption, whether manufacturer or dealer, is under a legal duty to exercise due care that the article sold by him is wholesome, harmless, and in all respects fit for human consumption.

The courts are crowded with claims for alleged bodily injuries and damage to property caused by the use of all kinds of products—mechanical (which includes claims both for defective materials and defective workmanship), chemicals; foods and beverages for human consumption; including cans, bottles and other containers in which they are distributed. Judgments have been rendered against manufacturers and dealers involving a dead mouse; broken glass; a dead spider; a dead fly and other insects in foods and beverages; flour said to contain arsenate of lead; ginger extract said to contain wood alcohol; articles commonly used in homes, which explode and result in personal injuries.

I would like to cite a few actual cases just to give an idea of the widely diversified types of claims and court decisions:

1. Suits asking $50,000 damages were filed by two women who suffered severe illness from eating vegetables said to have been impregnated with poison which was believed to have been used in gardens to exterminate pests.

2. The manufacturer of an automobile may be liable to the purchaser of a car for injuries sustained when a pebble thrown by a passing car shattered a windshield which the manufacturer in its advertising had represented to be shatterproof.

3. In another case, a woman recovered $20,000 from a drug company because through mistake of the latter, she got a caustic preparation instead of a throat medicine.

4. A judgment of over $100,000 was obtained against a manufacturer because of an explosion on a yacht resulting from alleged defective installation of a gas range and equipment used for cooking.

5. A well known manufacturer of a chocolate bar received a number of complaints from different attorneys at one time alleging that glass and metal had been found in cakes of chocolate. The manufacturer was at a loss to account for same as the product was manufactured in a model plant, well safeguarded and sanitary. Settlements of these several claims were made and the evidence was obtained and it was discovered that the foreign substance contained in the chocolate bars was what remained of some eyeglasses which had gotten into the batch of chocolate and ground up. This concern questioned their employees, particularly those who wore glasses and finally learned from one old employee that he had lost his glasses but had no idea where he had left them. Finally it was brought out that he occasionally removed his glasses and put them into the upper pocket of his jumpers and the obvious conclusion was that his glasses had fallen from the pocket into a batch of chocolate without his notice. Thereafter, all employees of that factory who wore glasses were required to have same firmly attached to their person or clothing.

6. A particularly interesting case involving warranty and which received considerable publicity was that in which an American meat packing company and an American chain grocery company were held jointly responsible for the death of a customer whose esophagus was lacerated by a small piece of tin in a can of hash notwithstanding the fact that the hash was canned by a South American canning company. The can was hermetically sealed by the canner and was not opened until it reached the ultimate consumer.

THE conclusion is inescapable that every manufacturer or distributor of a product is today exposed to claims and expense because of alleged personal injuries or damage to property resulting from the sale, consumption and use of his products.

The insurance policy binds the insurance company to pay all sums which the Insured shall become obligated to pay by reason of the liability imposed upon him by law for damages, including damages for care and loss of services because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons, excluding of course an employee of the Insured while engaged in the business of the Insured, caused by an accident and arising out of the possession, consumption, handling or use of any merchandise or product manufactured, sold, handled, or distributed by the insured, sold to a purchaser for a consideration while such merchandise or product is out of the care or custody of the Insured or his employees. The policy may be extended to similarly include the assured's liability for damage caused to the property of others excluding property in the care or custody of the Insured or his employees.

The policy covers any accident which occurs during the policy period. On certain types of products insurance, the policy is written to cover only merchandise sold during the policy period, and if the insured desires proper protection, it is important to make sure that the coverage applies also to merchandise sold

MORE Killing Particles per Ounce

NOWHERE in the world will you find Pyrethrum and Derris Powders which are ground finer than those produced by McCormick. The microscopic fineness of these powders means that each ounce is broken up into a vastly higher number of killing particles, which stick more closely to the vital parts of insects, insuring a quicker, surer kill. . . . For further information address: The McCormick Sales Co., Baltimore, Md. In Canada: McCormick & Co. (Canada) Ltd., 454 King St., West, Toronto, Ontario.

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Also Manufacturers of

DERRIS EXTRACT • DERRIS RESINATE • ROTENONE CRYSTALS

prior to the inception date of the insurance which may cause an accident after the insurance takes effect.

As will be observed from the preceding description of the coverage, the policy usually stipulates that the coverage applies to merchandise which has been sold to a purchaser for a consideration. Many concerns, however, have merchandise away from their premises which is loaned, leased, or out on assignment; also premiums, prizes, advertising matter and other articles distributed by the assured may cause personal injuries and it is most important therefore in the arrangement of the insurance that the policy clearly stipulate that it applies to such articles and products.

An interesting point which is not always understood is that products liability insurance covers claims arising from the use of the product itself and does not cover claims arising from the action of germs and insects. Disinfectants and insecticides are used to prevent and exterminate germs, vermin and insects, but if it fails to accomplish its intended purpose, the action of germs may contaminate food or destroy property. For instance, a vast amount of damage is caused annually by moths, but unless special provision is made in the policy, the products liability insurance does not cover damage caused by the action of the moths.

From the foregoing wording of the insurance contract, it will be noted that the insurance company agrees to pay claims for which the Insured may become liable by law for damages. However, many important claims are settled, not on the grounds of legal liability, but from the standpoint of good will as it is true that many concerns would prefer to have claims settled rather than be faced with the publicity of defending cases in court, but this should be emphatically discouraged because in the long run, it is going to prove much more costly. There are many fake or strike claims with the view to getting something for nothing. The public is probably more claim-conscious today than ever before and unfortunately there are members of the legal profession who have found negligence claims of this type a fertile field of operations.

The insurance policy provides that the insurance company will defend in the name and on behalf of the insured, any suit against him alleging injury and seeking damage on account thereof, even though such suit is groundless, false, or fraudulent and the company further agrees to pay all court costs taxed against the insured in any suit and all costs and expenses incurred by the company, with the company's written consent; all interest accruing upon that part of any judgment which is within the limits of the company's liability in any suit up to the date of the payment or tender to the judgment creditor. These expenses are paid in addition to the limits of the policy. Bodily injury is interpreted, and the policy should clearly state, that it means sickness, disability and mental anguish.

Insurance policies as a rule, apply only to accidents which occur within the continental limits of the United States of America and the Dominion of Canada. As the products of many concerns are sold, consumed and used outside these limits, perhaps on vessels or in foreign countries, and while insurance companies as a rule do not extend their policies to cover claims made in foreign countries, it is advisable to have the insurance extended to apply to accidents which occur outside the continental limits of the United States and the Dominion of Canada provided that the action for damages is made in this country.

The insurance of course does not apply to accidents resulting from any product manufactured, sold, handled, or distributed in known violation of any federal, state or municipal law.

Recently there was a case which involved a chemical not considered toxic or poisonous in small quantities and was used as a carrying agent in flavoring extracts and medicines. The introduction of other materials had the effect of making this material, especially in the quantities used, highly toxic. I refer to the case in the South where an Elixir placed on the market and recommended by physicians for the cure of sinus, took the lives of a number of people and it was found that the combination of two or more preparations resulted in a highly toxic material, although this was not discovered until after the deaths had occurred. This resulted in the Federal Government libeling the product which was on the market and forbidding the sale of same for internal purposes.

The policy contains three limits of liability. The first limit expressed is applicable to "each person" which is the company's liability for all damages, including damages for care and loss of services arising out of bodily injury to or death of one person in any one accident.

The second limit is applicable to each accident and subject to the first stated limit respecting each person, applies to the total limit of the company's liability for all damages, including damages for care and loss of services arising out of bodily injury to or death of two or more persons in any one accident.

The third is known as the aggregate limit and applies to the total limit of the company's liability for all damages, including damages for care and loss of services arising out of bodily injury or death in respect to any and all accidents occurring during the currency of the policy. The policy usually states that if merchandise or products from one prepared or acquired lot shall, after the sale thereof, produce injury to more than one person, the injury to all persons proceeding from that common cause, shall be considered as constituting one accident.

The importance of carrying high limits is strongly emphasized. Not long ago, there was a case in New York where a well known bakery distributed pastry and several hundred people were made ill which resulted in scores of claims. While the individual claims were small, they amounted to a large sum in the

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aggregate, and under a products liability policy containing the above wording, the importance of having a large single limit is readily apparent.

Insurance policies almost invariably provide that the insurance company shall be subrogated to all of the Insured's rights of recovery and the Insured is required to execute all papers and to do everything that may be necessary to secure such rights. For instance, under a workmen's compensation policy, an insurance company can take subrogation action against a third party responsible for a workmen's compensation claim, and today compensation laws of many states include occupation diseases. Employees in industry are exposed to personal injuries and bodily harm resulting from solvents, chemicals and many other causes which may result in injury to health, infection, skin diseases or other disabilities. Insurance companies can and almost invariably do, seek recovery where possible to do so, and this indicates another source of claims against manufacturers and distributors of various types of products.

A most pertinent factor and one in which every manufacturer and distributor is, or should be, vitally interested is the introduction in recent years of "Hold harmless and indemnity agreements" in all types of contracts. I find that these are frequently overlooked and not understood. This is an agreement whereby one party to a contract agrees to hold harmless and indemnify the other party in respect to claims, suits and judgments. Hold harmless agreements are frequently accomplished in two ways—first, by formal compliance certificates, and second, by means of clauses in contracts or even printed on customers' purchase order forms. The following are illustrations of clauses sometimes used:

(a) "The manufacturer agrees to protect and indemnify said distributor against any loss, cost, expense, judgment, damage or liability resulting from injury to any person or property by reason of the use or handling of said manufacturer's products or merchandise, it being understood that upon commencement of any suit, written notice thereof shall be given to the manufacturer by the distributor with copy of any summons or other process served upon said distributor."

(b) "The undersigned seller hereby certifies to buyer that he is an 'employer' within the meaning of the Federal acts or laws or acts or laws of the state or states wherein he operates, pertaining to Workmen's Compensation and Unemployment Compensation or Insurance, and is complying with the terms of these acts or laws. The undersigned agrees to indemnify and save harmless the buyer from any and all claims of any nature whatever, either relating to injuries or occupational disease (including death resulting therefrom to, or caused by, any employee of said contractor or any subcontractor of his, arising in connection with any contract or order with the buyer, or relating to Unemployment Compensation or Insurance Contributions measured or based upon employment in connection therewith. The contractor agrees to reimburse the buyer for any payments made by the buyer on account of any claim made against it in this connection."

The idea of passing one's own responsibility to another party is unsound and is bound to have unpleasant repercussions. Such clauses have gained tremendous headway in recent times but every buyer is also a seller and himself faces the same likelihood of being confronted with the proposition of holding harmless the party to whom he sells his product.

"Hold-harmless and Indemnity agreements" are today found in railroad siding agreements, leases, contracts, agreements and purchase orders and I would like to suggest that at your very first opportunity you get out of your files every such document now in force and that you forthwith refer same to your insurance advisor and to your attorney to see whether there is any hold-harmless agreement contained therein which imposes a responsibility on you. If so, that you promptly, arrange either to have such liability eliminated or insured. The liability insurance policy does not cover any contractual or assumed liability except by special arrangement.

What are the principal reasons for carrying products liability insurance? It is true that some concerns have never been faced with any really important claims and are not yet aware of the potentialties of loss. Some concerns follow different methods in handling claims in different parts of the country and in certain metropolitan areas in the East where experience indicates that many claims are of a fraudulent nature, claims are strongly contested. In other parts of the country, a representative may call on the claimant and satisfy him by leaving a can or box of the firm's products and thank him for calling the matter to the manufacturer's attention. I believe the most important reasons for having the insurance are:

1. Pre-determined cost of insurance which can be added to sales price or made a definite part of production cost.

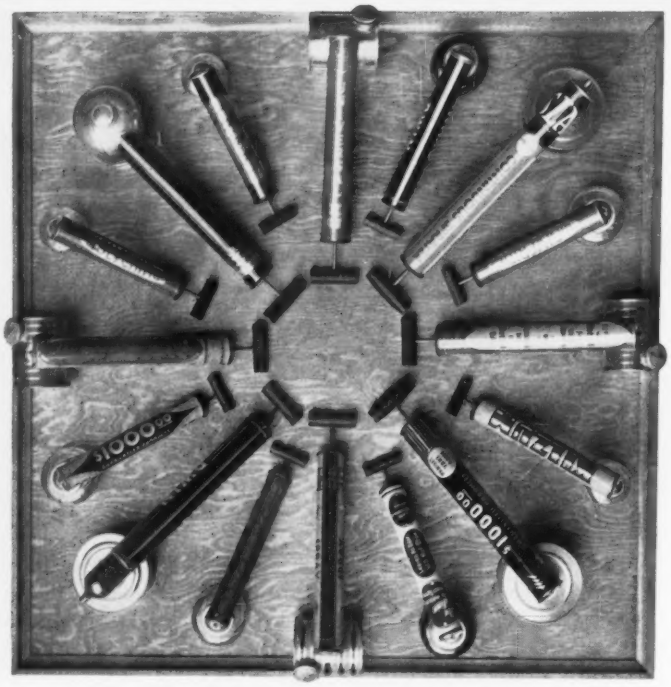
2. Freedom from thought or worry about ability to pay claims or judgments which might result in bankruptcy.

3. Investigation and defense of claims, even though groundless, false or fraudulent, the defense and settlement of which is often very expensive.

Insecticide Analysis

(*From Page* 101)

cury reduction method for pyrethrins in pyrethrum products, paying special attention to the effect of a preliminary treatment for the removal of acidic substances and of varying quantities of excess sulfuric acid on the decomposition of the pyrethrins during the distillation.



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Scientific Advances in 1938 in DISINFECTANTS and ANTISEPTICS

By Dr. Emil Klarmann*

Lehn & Fink Products Corp.

THE year 1938 did not bring any strikingly new developments in the field of disinfectants and antiseptics. Most of the information published in technical and patent literature shows a more or less direct connection with previous findings (commented upon in the preceding annual reviews).

Theory and Methods

Since the toxic action upon tissue of antiseptics and germicides is an important consideration in their evaluation methods which aim to furnish a quantitative juxtaposition of the bacteriotropic and organotropic effects, are worthy of careful attention.

J. Bronfenbrenner, A. D. Hershey and J. A. Doubley[1], describe a manometric method by which the rate of oxygen uptake by Es. coli on one hand and by mouse tissue on the other, is compared in the absence and the presence of antiseptics, in the Warburg-Barcroft apparatus.

Continuing their previous experiments, A. J. Salle and collaborators[2] carried out a similar comparison. Here the criterion of fitness is the highest dilution of the disinfectant that is inhibitory to growth of embryonic tissue, as contrasted with the highest dilution required to kill the test-organism, both after 10 minutes exposure. The latest improvement calls for performing the test at 37° C. instead of at 25° C.

K. H. Blaas[3] recommends the use of peas or hazelnuts as carriers for microörganisms, in preference to inorganic materials, such as glass beads, etc.

A simplified method for the evaluation of strong disinfectants has been worked out by M. L. Isaacs[4]. The essential part of the apparatus is a pipette mounted over a platinum loop above a revolving petri dish with water. A known quantity of suspension is placed in the loop and a drop of disinfectant is allowed to drop from the pipette through the loop into the dish.

R. Hanne[5] after studying the action of several disinfectants on a number of microörganisms of the coli group, arrives at the conclusion that B. coli can be used safely as test-organism representative of all other organisms of this group.

A method of testing non-phenolic disinfectants has been reported by W. C. Clark[6]. The test applies particularly to preparations recommended for the disinfection of woodwork. Peculiarly Staphylococcus aureus is used as a test-organism.

A publication by G. F. Reddish and E. M. Burlingame[7] refers to the effect of different peptones on the resistance of strains of Staphylococcus aureus.

The effect of various organic substances of biological importance upon variations of the phenol coefficients of disinfectants is the subject of a study by E. Jensen and V. Jensen[8]. As might be expected, these authors find that the coefficients vary with the nature and the proportion of the substances added.

In an attempt to prepare spore suspensions of uniform resistance for disinfectant studies, A. S. Rudolph and M. Levine[9] subjected the spores of B. metiens to different kinds of treatment. They find that after heating at 80° C. for 10 minutes, to kill the vegetative cells, the spores showed no change in their resistance in the course of eight months storage at 10° C.

W. S. Marshall[10] raises objections against the use of the phenol coefficient and of other similar indices in the evaluation of germicides.

A comparison of disinfectants containing cresols or halogenated phenols with hypochlorites and with quarternary ammonium compounds, reveals the superiority of the former for the disinfection of tuberculous sputa, according to a paper by A. Adams[11].

Organic Mercury Derivatives

As in previous years, a number of U. S. patents were issued to C. N. Andersen for different groups of organo-mercury compounds claimed to be possessed of germicidal or antiseptic properties. The following examples are taken from the several patents published and are intended to illustrate the scope of the respective patents: Reaction products of nitro-substituted aromatic polybasic acids with phenyl mercury hydroxide[12]; phenyl mercury carboxylates of dyes, e. g., Alizarine Yellow, Rhodamine B, Fast Acid Violet B, Chrysamine L, Diamond Red, etc. ([13, 14, 15, 16]); reaction products of phenyl mercury hydroxide with organic acids and their derivatives, e. g., ortho-chlorobenzoic acid, ortho-iodo benzoic acid, 1-chloro-2-carboxy-naphthoic acid, tetrachlorophthalic acid, etc.[17]; re-

* Reported before the 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec. 1938.

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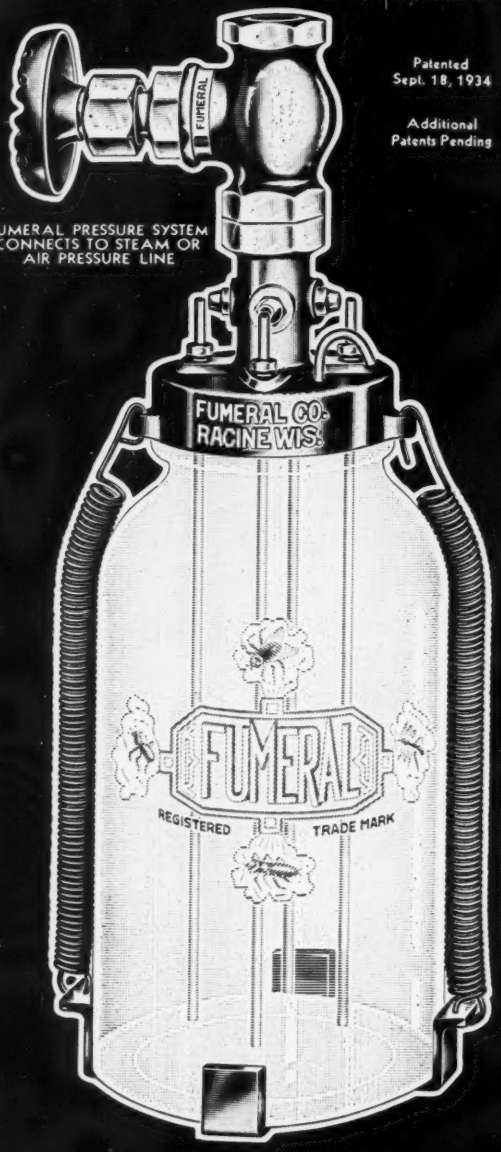

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action products of phenyl mercury hydroxide with substituted pyrazoles, pyrazolines, pyrazolones, pyrazolidines (also tartrazine)[18]; compounds of the type of phenyl mercury acetoacetate, phenyl mercury malonate, phenyl mercury naphthalate, phenyl mercury saccharate, etc.[19]; compounds of the type of phenyl mercury glyoxylate, levulinate and pyruvate[20]; compounds of the type of phenyl mercury opianate, glycuronate, etc.[21]; compounds of the type of phenyl mercury arsanilate, the phenyl mercury alcoholate of bismuth lactate, triphenyl mercury bismuthate[22]; compounds of the type of phenyl mercury cinnamate, atropate, acrylate, etc.[23]; compounds of the type of the phenyl mercury alcoholate of sodium salicylate, etc.[24].

A French patent[25], covers reaction products of cyclohexyl mercury hydroxide with trichloro ethylene.

B. F. Tullar[26] secured a Canadian patent covering phenyl mercury tartrate. Polyhydric phenols, in which two hydroxyl groups are in ortho position, or in which they are in meta position with a side chain present, react with phenyl mercury hydroxide in such manner as to leave one hydroxyl group free. Examples of this type of reaction products are phenyl mercury pyrocatechol, phenyl mercury phenethyl resorcinol, etc.[27].

G. H. Coleman, L. A. Weed and C. D. Myers prepared a number of organo mercuric compounds in an effort to determine the relationship between their structure and their antibacterial action. In the aliphatic series they found the toxicity to increase from the methyl to the butyl derivatives. Generally speaking the toxicity of aromatic derivatives was greater than that of the aliphatic, but no significant differences were found among the aromatic compounds such as the phenyl, para-tolyl and benzyl derivatives, even though a number of test-organisms were used in the experiment (viz., Serratia marcescens, Eb. typhi, Es. coli, Staph. aureus, Klebsiella pnuemoniae, Aerobacter)[28].

S. Brandt Rose and R. E. Miller[29] compared the zones of inhibition produced by mercuric chloride, Mercurochrome, Metaphen and Merthiolate, using Staphylococcus aureus as test-organism. They found that increasing concentrations of horse blood in the agar effect a decrease of the zone. The results could be expressed in terms of the formula $C = Ke^{mz}$, where C is the concentration of the blood, K a constant characteristic for each antiseptic used, e the base of logarithms (Napier), m the coefficient of inactivation and z the zone of inhibition in millimeters.

Phenol Derivatives

A number of patents were issued covering the preparation of new antibacterial compounds of phenolic character. According to G. W. Raiziss and Le Roy W. Clemence[30] the ortho-, meta- and para-beta-methylbutyl cresols display high germicidal potency and low toxicity. The same authors received also a patent covering mono- and di-chloro, mono- and di-bromo derivatives of amyl ortho-, meta, and para-cresole[31].

A patent issued to L. Rawlins and H. C. Hamilton[32] covers the preparation of polyhydroxy,—sec. alkyl phenol germicides, such as di-sec.hexyl resorcinol, diamyl pyrogallol, etc.

H. E. Buc[33] received a patent for germicidal and fungicidal compounds of the class of secondary and tertiary alkyl phenols and resorcinols.

The preparation of iodo-ortho-phenyl phenol is the subject of a patent issued to W. C. Stoesser[34].

E. Klarmann[35] was granted a German patent covering combinations of alkyl and cyclo-alkyl phenol derivatives containing at least four carbon atoms in the alkyl or cycloalkyl group, with phenol homologs of low molecular weight as well as halogenated phenols.

Halogen Germicides

A critical review of over 70 literature quotations shows lack of agreement in regard to the relative germicidal efficiency of different chlorine compounds according to D. Charlton and M. Levine[36]. Working with bacterial spores the authors found that hypochlorites were more markedly affected by changes in hydrogen ion concentration, temperature and chlorine concentration than was chloramine T. For a given chlorine concentration, chloramine exhibited the weakest germicidal efficacy. However, in solutions more alkaline than pH 9.5 to 10, mono chloramine T was more germicidal than hypochlorites; in less alkaline solutions hypochlorites were more effective. In disinfection with hypochlorites the concentration of hypochlorous acid plays a significant part; but this is not the case with chloramines and chloramine T.

A. S. Rudolph and M. Levine[37] find that increasing the concentration of available chlorine to four times the original concentration, reduces the killing time by one-half. They found also that changes in the hydrogen ion concentration affect the germicidal power more than changes in available chlorine concentration. A rise of 10° C. reduces the killing time by from 50 to 75 per cent.

A patent was issued to C. B. Durgin[38] for disinfecting compositions comprising calcium hypochlorite with sodium metaphosphate.

Acids

According to E. Hailer[39] human and bovine strains of the tubercule bacillus show selective sensitivity to sulfurous and thiocyanic acids, as well as to the higher members of the aliphatic organic series (capric, heptylic, caprylic and nonylic acids, also chloro acetic acid). Of the lower members of this series, formic acid shows the strongest action. While the antibacterial potency increases from acetic to valeric acid, it does not reach that of the formic acid. The author expresses the view (in agreement with similar opinions published by others previously) that the antibacterial action of the acid is not due primarily to the hydrogen ion but to the undissociated portion of the acid.

G. Lockemann and K. Heiken[40]

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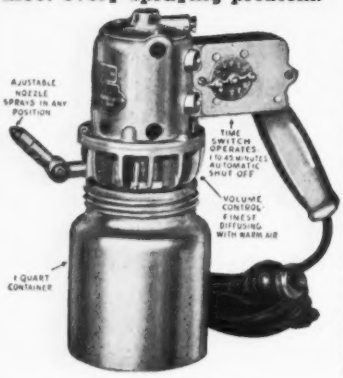
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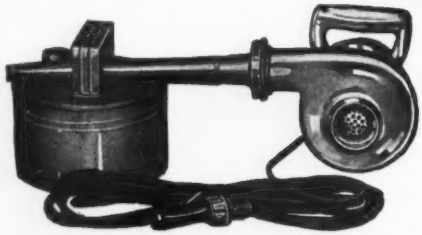

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continued their experiments on the germicidal action of thiocyanates, referred to in greater detail in the preceding annual reviews.

The antibacterial action of benzoic acid and the effect upon it of changes in the hydrogen ion concentration and of the addition of inorganic salts is the subject of a paper by R. H. Goshorn, E. F. Degering and P. A. Tetrault[41].

P. Delauney[42] studied the antibacterial action of salicylic acid, aldehyde and alcohol as well as of their 5-mono- and 3,5-dihalogen derivatives.

Quarternary Ammonium and other Onium Compounds

C. G. Dunn[43] investigated the fungicidal action of alkyl dimethyl benzyl ammonium chlorides. Using the F.D.A. technique, suspensions of various pathogenic molds were tested in a 1:1000 alcohol-acetone aqueous solution. Among them were Epidermophyton inguinale, Achorion schönleinii, Cryptococcus hominis, and others.

A patent issued to G. Domagk covers compounds for hand disinfection containing as active principle dodecyl-diethyl-benzyl-ammonium chloride and other quarternary ammonium compounds[44].

A French patent[45] covers sulfonium compounds such as di-iso-octyl-methyl- sulfonium methyl sulphate[45].

Pharmaceutical Preparations

The inhibitory action of calomel ointment is the subject of a study by F. W. Schiller[46]. An improvement in the preparation of the ointment is recommended which results in a demonstrably better inhibitory action when tested by the F.D.A. method. An improved calomel formula is claimed also by E. E. Vicher, R. K. Snyder and E. N. Gathercoal[47]. The improvement is brought about by a reduction of the particle size of calomel. As a result, the inhibitory zone, as determined by the F.D.A. agar cup late method, extends from 7 to 12 mm., while the official calomel ointment is said to give a zone of only one-half to two mm.

In accordance with previous findings R. O. Craw and C. O. Lee[48] find ointments containing two per cent phenol ineffective as antiseptics except in bases containing water, glycerites and cold creams. Lanolin and petrolatum are not suitable as bases if an antiseptic effect is desired. An improved formula to substitute for the Liquor Antisepticus of the National Formulary is recommended by H. S. Howell, L. Goldberg, R. K. Snyder and E. N. Gathercoal[49].

According to H. Kliewe and B. Datz[50], of 92 drugs whose infusions were studied, 41 showed definite though weak antibacterial activity when compared with that of the common disinfectants.

Essential Oils

E. Darzins[51] finds that pine oil vapor or oil incorporated in nutrient gelatine inhibits a number of common microörganisms also of acid fast, saprophytic and tubercle bacilli. This effect is attributed partly to the presence in pine oil of terpineol. In contrast to this, chaulmoogra oil is inhibitory to tubercle bacilli only. Inhalation of pine oil vapor by tubercular guinea pigs is claimed to hinder the spread of infection and to stimulate the defensive and reparative reactions of the conjunctive tissue of infected lungs.

Menthol in a dilution of 1:2400 is said to produce lysis of V. comma and Br. suis, and in a dilution of 1:3700 that of Past. avicida, according to a paper by G. Pacheco and M. Para[52]. No such effect is produced upon Staphylococcus aureus, Es. coli or Corynebacterium diphtheriae.

Miscellaneous

A patent covering combinations of bile acids with iodine was issued to P. Goedrich[53]. Antibacterial azo compounds obtained by coupling diazotized amino-tri-fluoro-methyl benzine with a phenylene diamine is the subject of a German patent[54]. An example is meta-tri-fluoro-methyl phenyl-azo-meta-phenylenediamine.

Combinations in molecular proportions of alkali salts of substituted phenols with amino alcohols are the subject of a patent issued to R. Lehmann, F. Hechmann, K. Dobmaier and J. Willems[55].

The preservative action of quinosol was studied by G. E. Smirnow[56]. Concentrations of as low as 1:10,000 were found to be effective in preventing the multiplication of saprophytes and of pathogenic bacteria. A concentration of 1:10,000 is claimed to be destructive of anthrax spores; no doubt, this statement must be taken with a great deal of caution[56].

According to R. L. Ingersoll, R. E. Vollrath, B. Scott and C. C. Lindgren[57], the volatile substances from freshly crushed garlic and onion which are definitely bactericidal have been identified tentatively as crotonaldehyde and acrolein.

Ultra-violet Light

D. G. Sharp[58] recommends a method of quantitative determination of the effect of ultra-violet light upon material suspended in the air, which calls for atomizing broth cultures into the air and then passing the air mixture first through tubes exposed to the ultra-violet light then into broth. This is done to avoid any further chemical effect on media resulting from a direct irradiation of the plates.

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[12]C. N. Andersen; U. S. Pat. No. 2,094,253.

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PURE POWDERED SOAPS

Castile, U.S.P. **Coconut, Pure** **White Neutral**
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[14]C. N. Andersen; U. S. Pat. No. 2,096,722.
[15]C. N. Andersen; U. S. Pat. No. 2,096,723.
[16]C. N. Andersen; U. S. Pat. No. 2,096,724.
[17]C. N. Andersen; U. S. Pat. No. 2,103,657.
[18]C. N. Andersen; U. S. Pat. No. 2,107,321.
[19]C. N. Andersen; U. S. Pat. No. 2,112,129.
[20]C. N. Andersen; U. S. Pat. No. 2,113,565.
[21]C. N. Andersen; U. S. Pat. No. 2,113,566.
[22]C. N. Andersen; U. S. Pat. No. 2,113,567.
[23]C. N. Andersen; U. S. Pat. No. 2,114,011.
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Sanitation in Fur Farming

(*From Page* 95)

tegrity in business. During the past few years I have realized, on a number of occasions, it is a far safer proposition to purchase sanitary supplies with one's eyes shut from certain reliable and conscientious firms than to purchase them from borderline outfits, even if these latter supplies are bought on specifications to meet laboratory tests.

The type of salesmen sent out to do business with fur farmers is a matter of consideration. It is desirable that they should have at least some working knowledge of the ranch business and realize for what purpose the products they are selling are used. Most of us have had the experience of listening to lengthy lectures by salesmen who made the most astonishing claims for their products and some of them seem to take a point of view that the average fur farmer is entirely ignorant of such matters as disinfection and general sanitation. Such is not the case today, and these lectures are not only time-consuming but create an antagonistic attitude towards the product which is being sold.

In conclusion, gentlemen, I have tried to emphasize briefly the fact that fur farmers are considerable users of insecticides and disinfectants and to point a few of the more important purposes for which they are used; also that it is a permanent and stable industry and one that should be worthwhile cultivating.

Phenol Antiseptics

The introduction of side-chain groups into resorcinol and other phenols has been the subject of an interesting study by Cox and Miller, who found that butyl-substituted resorcinol and a higher antiseptic power than propyl-substituted, and that the phenol coefficient reaches a maximum with the hexyl compound. Hexyl resorcinol has a phenol coefficient of 46. Longer side-chain substituted bodies, on the other hand, have a lower phenol coefficient, octyl resorcinol being reported to have no detectable bactericidal action.

Coulthard, Marshall and Pyman report that the maximum germicidal power is possessed by the amyl compounds. Amyl *meta*-cresol is stated by them to be one of the most efficient antiseptics examined, possessing a relatively low degree of toxicity. J. Wakelin. *Chemical Products*, **1,** 54-5 (1938).

Pyrethrin Determination

The Wilcoxson mercury reduction method for the determination of pyrethrin I is satisfactory when applied to pyrethrum powder, to pyrethrum powder mixtures and to mineral oil-pyrethrum extracts. Pine oil, oleic acid and derris resins do not interfere. The method seems to be specific for pyrethrin I and is not affected by the usual ingredients of pyrethrum spray materials. J. J. T. Graham. *J. Assoc. Official Agr. Chem.* **21,** 413-15 (1938); through Chem. Abs.

Derris Extractives

Chloroform was the most satisfactory solvent for the determination of the total extractives in derris and cube. A 7-hour extraction in a Soxhlet apparatus sufficies for nearly complete removal of the toxic substances. Extraction by a room-temperature aliquot procedure gave results in fair agreement with those from Soxhlet extraction, but averaging slightly lower. Howard A. Jones and W. N. Sullivan. *J. Econ. Entomol.* **31,** 400-5 (1938).

Consider your 1939

SPRAYER NEEDS NOW!

STANDARD SPRAYERS are not stock sprayers . . . they are "tailor-made" sprayers designed individually to *your* specifications . . . look into STANDARD SPRAYERS now for 1939.

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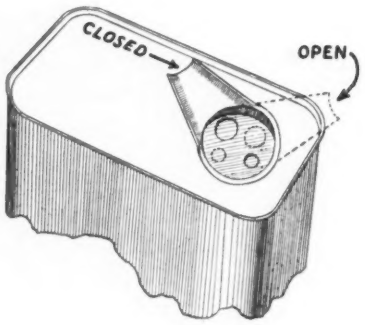

The newest and lowest cost STANDARD Self-Closing Pour Spout for your liquid insecticide, floor wax, disinfectant, oil, polish, etc. Low cost is only one of a dozen advantages. Let us tell you more about this newest pour-spout.

The ideal combination for your 1939 fly-spray . . . STANDARD container with self-closing pour spout . . . and STANDARD Tailor-Made Sprayer. Ask for further details.

STANDARD CONTAINER, INC.

Bloomfield, N. J.

New York Office - - - - - 30 Vesey St.

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SHELLAC FOR BETTER NO RUBBING WAXES

No. 65 EXTRA WHITE REFINED BLEACHED SHELLAC

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Will Dissolve Quicker
Require Less Alkali
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William McGill, Baltimore, Md.
Phil. A. Sullivan Sales Co., St. Louis, Mo.
Abbot Walls Agencies, San Francisco, Calif.
S. L. Abbot, Jr., Co., Los Angeles, Calif.
Harrisons & Crosfield Paterson Fraser, Ltd., Montreal
Harrisons & Crosfield Paterson Fraser, Ltd., Toronto

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136—41st STREET BROOKLYN, N. Y.

News.....

Flexrock Co. Moves

Flexrock Company, Philadelphia, building maintenance materials, has recently moved to new and larger quarters at 23rd & Manning Streets. Features of the new plant are a modern research laboratory, and a 5,000 sq. ft. proving ground.

Offer New Bill in Jersey

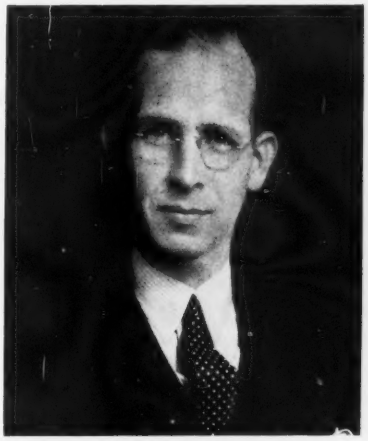
An amendment to the Pharmacy Act has just been introduced into the New Jersey State Legislature designed to permit persons other than licensed pharmacists to sell common household and domestic products in original packages, as well as vermin exterminators and cleaning, washing and disinfectant preparations. This bill has been before the New Jersey Legislature in the two previous years and attracted much support from manufacturers of the products affected. Open hearings on the bill have just been requested.

Plan for Drug Dinner

Plans for the 14th Annual Drug, Chemical and Allied Trades Banquet, to be held at the Waldorf-Astoria, March 9, were perfected at a meeting of the reception committee for the banquet held at the Waldorf, Tuesday noon, January 10. Ralph E. Dorland of Dow Chemical Co., chairman of the reception committee, outlined plans for the dinner to fifty members of his committee, and indicated that attendance at the banquet is expected to run in the neighborhood of 1,600. The publicity committee for the dinner is headed by Turner F. Currens of Norwich Pharmacal Co.

50th Year for McCormick

The annual sales convention of McCormick and Co., Baltimore, held last month commemorated their fiftieth anniversary in business. For one week a program of merchandising and advertising plans was given daily, together with special talks by heads of departments. The convention opened with a talk by Charles



Charles P. McCormick

P. McCormick, president, on the "Multiple Management" plan under which the company operates.

The principal social event of the week was a banquet and dance, held at the Emerson Hotel. During the convention, the McCormick sales board held its semi-annual meeting and election of officers. Two additions to the board were made, Ed. Crone, division manager of Washington, and R. L. Irwin, special sales representative of the insecticide and drug departments.

Offer N. Y. Food-Drug Bill

A bill has just been introduced in the New York Assembly to create in the state health department a consumers' bureau for the registration and control of drugs, cosmetics, etc. This is the same bill which was before the New York Legislature in 1937 and 1938, which was vigorously protested by manufacturers of the products affected.

Conn. Exterminators Elect

The Connecticut Pest Control Association, which was recently organized, held a meeting on January 13 at the Connecticut Agricultural Experiment Station. F. E. Bohman, Bohman Bros., Inc., Hartford, was elected president for the coming year. Other officers elected were James VanSloat, Greenwich Exterminating Co., vice-president, and Fred. Haas, Aetna Exterminating Co., secretary. The next meeting will be February 10th. It is planned to have Robert M. Isaac, Bureau of Biological Survey, as the speaker.

Offers New Floor Finish

Theo. B. Robertson Products Co., Chicago, has just placed on the market a new finish known as "20th Century Brite Finish." The company states that it produces a hard glossy, protective coating which is waterproof, alkali proof, and alcohol proof. The product can be applied with a cloth, and requires no rubbing. It is claimed that it sets in 20 minutes and dries hard in 2 or 3 hours, and will waterproof painted or unpainted surfaces.

Reader Asks Advice

A reader of SOAP is interested in learning of a practical method for preventing starlings from resting on his fire escape. Comments will be appreciated by firms in the exterminating field who have solved similar problems.

New Drip Machine

Garnet Chemical Corp., Allentown, Pa., is introducing a new white porcelain enamel drip machine. Its features are a tamper proof lock, construction of heavy gauge metal, and all working parts of brass,—chrome plated.

A. D. M. A. To Meet

The American Drug Manufacturers Association, has selected The Homestead, Hot Springs, Virginia, for its annual meeting May 1-4, inclusive.

Solinsky Leaves National Can

R. S. Solinsky, assistant vice-president of National Can Corporation at the Chicago office, and in charge of general line container sales in the mid-west, has just announced his resignation. He has not as yet made known his future plans.

Save the surface of all linoleum with Washburn wax

"..... WASHBURN OFFERS FLOOR FINISHES THAT WILL HELP BUILD *Your Business*"

MANUFACTURERS OF QUALITY FINISHES FOR OVER 50 YEARS

"OUTSTANDING PRODUCTS BY WASHBURN"

ALL AMERICAN GYM FINISH — PENETRATING SEAL — TREAD PROOF FLOOR SEAL
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Complete description and ways and means of applying these and other finishes thoroughly explained in 52 page book "Modern Floor Maintenance," sent Free to Jobbers by merely writing

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NEW AND BETTER ODORS FOR YOUR FLY SPRAY

Does your fly spray odor only partly cover up the smell of your kerosene or other base? Or does it substitute a sweet, strong odor that the user dislikes just as much?

The new Schimmel Insecticide Odors are entirely different and they're a big step ahead. First of all, they neutralize the smell of the kerosene or other base. Then they add a clean, pleasant odor that is neither too strong nor too sweet. In fact, they smell as if the spray and the odor really belonged together. They're low priced too. Here are four of them —

Ampolene (a flowery odor) 65c a lb.
Cipolene (a grassy odor) 50c a lb.
Dopolene (a bouquet odor) $1.00 a lb.
Ropolene (a spicy odor) 80c a lb.

PRICES QUOTED ARE IN 50 LB. CANS.

OUR OFFER—We shall be glad to send you liberal samples of all four and let you decide which is best for your purposes.

SCHIMMEL & CO., INC.

601 West 26th St., New York City — CHICAGO CLEVELAND LOS ANGELES CINCINNATI TORONTO NEW ORLEANS

Announce NAIDM Committees

New committee appointments for 1939 have just been announced as follows by J. L. Brenn. president of the National Association of Insecticide & Disinfectant Manufacturers:

Convention

General Chairman: W. J. Zick, Stanco, Inc., New York.

Arrangements: John Powell, John Powell & Co., New York; Ira P. MacNair-Dorland Co., New York.

Program: C. L. Weirich, C. B. Dolge Co., Westport, Conn.; Peter Reilly, Reilly Tar & Chemical Co., New York.

Entertainment: L. J. LaCava, Continental Can Co., New York; J. B. Magnus, Magnus, Mabee & Reynard, New York; Charles Opitz, John Opitz Inc., Long Island City, N. Y.

Disinfectant & Antiseptic Scientific Committee

Chairman: Dr. E. G. Klarmann, Lehn & Fink Products Corp., Bloomfield, N. J.; B. H. Little, Hercules Powder Co., Wilmington, Del.; W. A. Hadfield, General Laboratories, Philadelphia; Dr. Herbert Pease, Pease Laboratories, New York; Dr. G. F. Reddish, Lambert Pharmacal Co., St. Louis; Jack Varley, Baird & McGuire, St. Louis.

Disinfectant & Antiseptic Marketing Committee

Chairman: W. B. Eddy, Rochester Germicide Co., Rochester, N. Y.; Campbell C. Baird, Baird & McGuire, Holbrook, Mass.; C. W. Furst, Furst-McNess Co., Freeport, Ill.; J. W. Schiffer, Federal Sanitation Co., Cleveland.

Insecticide Scientific Committee

Chairman: Dr. Alfred Weed, John Powell & Co., New York; A. E. Badertscher, McCormick & Co., Baltimore; H. R. Berry, Shell Petroleum Corp., St. Louis; C. R. Cleveland, Standard Oil Co. (Indiana), Chicago; L. D. Benedict, Midway Chemical Co., Chicago; N. J. Gothard, Sinclair Refining Co., East Chicago; D. F. Murphy, Rohm & Haas Co., Bristol, Pa.; F. C. Nelson, Stanco Inc., Elizabeth, N. J.; W. A. Simanton, Gulf Research & Development Corp., Pittsburgh.

Associate Members of This Committee

Dr. F. L. Campbell, Ohio State University, Columbus, Ohio; Dr. Lon A. Hawkins, U. S. Dept. Agriculture, Bureau of Entomology & Plant Quarantine, Washington, D. C.

Insecticide Marketing Committee

Chairman: H. A. Thomas, Shell Petroleum Corp., St. Louis; Earl Ament, Dethol Mfg. Co., Washington, D. C.; H. W. Baldwin, Baldwin Laboratories, Saegertown, Pa.; Preston B. Heller, B. Heller & Co., Chicago; F. O. Huckins, Sinclair Refining Co., Chicago; Robt. C. White Jr., Robt. C. White Co., Phila.

Legislative Committee

Chairman: C. L. Fardwell, McCormick & Co., Baltimore; H. W. Hamilton, White Tar Co. of N. J., Kearny, N. J.; Friar Thompson, Hercules Powder Co., Wilmington; Dr. O. F. Hedenburg, c/o Mellon Institute of Industrial Research, University of Pittsburgh, Pittsburgh; H. A. Thomas, Shell Petroleum Corp., St. Louis. Also in connection with the Legislative Committee we have the services of Robert F. Wilson, counsel and H. C. Fuller, consultant.

Membership Committee

Chairman: Henry A. Nelson, Chemical Supply Co., Cleveland; M. J. Flanagan, Federal Varnish Co., Chicago; H. R. King, R. J. Prentiss & Co., Inc., New York.

Publicity Committee

Chairman: Ira P. MacNair, MacNair-Dorland Co., New York; Harold Noble, S. B. Penick & Co., New York; R. M. Stevenson, Givaudan-Delawanna Inc., New York.

Public Purchases Committee

Chairman: Gordon M. Baird, Baird & McGuire Inc., Holbrook, Mass.; F. O. Huckins, Sinclair Refining Co., Chicago; Chas. Van Dyne, American Disinfecting Co., Sedalia, Mo.

Sanitary Specialties Committee

Chairman: Melvin Fuld, Fuld Bros., Baltimore; F. J. Pollnow, Vestal Chemical Co., St. Louis; Guy P. Robbins, Geo. B. Robbins Disinfecting Co., Boston; Geo. L. Simmonds, U. S. Sanitary Specialties Co., Chicago; Russell A. Young, Davies-Young Soap Co., Dayton, Ohio.

1939 Special Committees

Co-operative Publicity Committee

Chairman: Wallace Thomas, Gulf Oil Corp., Pittsburgh; Geo. L. Simmonds, U. S. Sanitary Specialties Co., Chicago; F. X. Tiddy, The Black Flag Co., Baltimore.

Disinfectant Booklet

Dr. E. G. Klarmann, Lehn & Fink Products Corp., Bloomfield, N. J.; C. L. Weirich, C. B. Dolge Co., Westport, Conn.

Products Liability Insurance

Chairman: R. O. Cowin, Standard Oil Co. (Ohio), Cleveland; Chas. F. Opitz, John Opitz Inc., Long Island City, N. Y.; S. S. Selig, The Selig Co., Atlanta.

25th "Silver" Anniversary Committee

Chairman: John N. Curlett, McCormick & Co., Baltimore; S. H. Bell, Gulf Bldg., Pittsburgh; H. M. Clark, Dr. Hess & Clark, Ashland, Ohio.

World Fair Committee

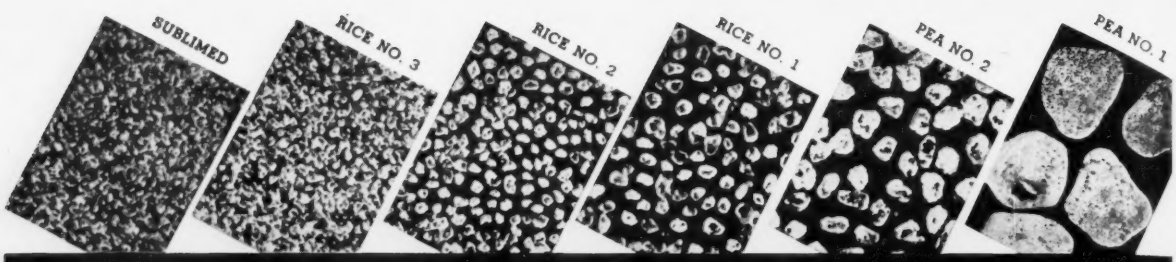
Chairman: Louis A. Trevisan, American Can Co., New York; R. W. Bjork, L. Sonneborn Sons, New York; A. L. van Ameringen, van Ameringen-Haebler Inc., New York.

Booklet On Filtrol Products

Filtrol Corp., Los Angeles, has issued a 32-page, illustrated, bulletin on "Filtrol Products and Their Commercial Uses."

Whitmire Leases Plant

The Whitmire Research Corp., Saint Louis, has recently leased a three story building at 339 South Vandeventer Avenue. The corporation, of which Dr. Homer E. Whitmire is president and Joseph E. Burger is vice-president, specializes in the manufacture of hydrogenated rotenone, rotenone products, and other non-poisonous insecticidal chemicals. Research work on various types of insecticidal chemicals is being carried on in the Whitmire laboratories.



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Plan New California Law

The Pacific Coast Insecticide Association, San Francisco, has issued an open letter and a draft of a proposed bill to be offered at the 1939 California Legislature. The feature of the bill is an amendment to the agricultural code, division 5, chapter 7, article 3, economic poisons. The amendment as proposed, reads as follows: "A registrant of economic poisons may cause to be printed upon the label of any sealed or closed container or package of economic poisons which he intends to sell within this state, or of any opened lot from which sales have been authorized by the director, a statement of the characteristics of the economic poisons sold therein, together with such directions as to the purposes and manner of use and such limitations of warranty with respect to the use thereof, as the registrant may consider proper. Such label shall be approved by the director. The registrant or seller shall be subject to the provisions of the Uniform Sales Act but shall not be liable in respect to any inquiry or damage suffered by reason of the use of said economic poison for a purpose not indicated by the label, or the advertising literature of the registrant or seller, or not in conformity with the directions, label, or advertising material, or when the economic poison is used contrary to the established local custom in the district where such economic poison is applied, or in respect to the breach of any warranty expressly excluded thereby."

—— • ——

Stocks of crude cottonseed oil on hand in United States, December 31, 1938, totaled 175,376,976 lbs., as compared with 200,943,424 lbs. at the close of 1937.

Buettner Visits Indianapolis

Indianapolis pest control operators met on January 21 at the Hotel Washington, Indianapolis, with William O. Buettner, secretary of the National Pest Control Association as guest speaker. A committee, composed of Charles O. Partlow and Ralph Griebenow, will confer with Prof. J. J. Davis on the desirability of forming a state association.

Pest Control Operators Meet

The third annual Pest Control Operators Conference held at Purdue University, Lafayette, Ind., January 16-20 under the direction of Prof. J. J. Davis attracted an attendance of approximately one hundred and twenty-five. The conference featured a series of practical clinics at which questions relative to insect control methods were asked and answered. Southern Pest control operators were scheduled to meet for another conference at Louisiana State University, Baton Rouge, January 30-February 1. Among the talks scheduled were the following: "Rodents and Their Control" by George Lowery and L. S. Bridges; "How Insecticides Kill" by L. O. Ellisor; "Ants and Their Control" by E. R. Barber; and "Termites and Their Control" by Thos. E. Snyder.

The Pacific coast group have scheduled their second annual conference for February 20-22 at the University of California, Berkeley. The list of subjects to be covered includes the following: "The importance of positive identification." "Knowledge of Ecology important in pest control work." "Illustrated lecture on ants." "Wood boring insects, other than termites." "Newer developments in insect toxicology." "Economic poisons in pest control work." "Illustrated lecture on insects and the public health." "Building code requirements — with special reference to damage caused by termites."

R. V. Haneberg, 885 59th St., Oakland, Calif., is acting as secretary-treasurer for the conference. The registration fee, including cost of entertainment and banquet ticket will be ten dollars.

A large and enthusiastic group attended the 3rd Annual Pest Control Operators Conference at Purdue University last month.

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The Publishers

Refuse "Penn-X" Registration

Rockland Chemical Co., Newark, N. J., is not entitled to register "Penn-X," as a trade-mark for disinfectants according to a recent decision by the U. S. Patent Office, in view of the prior registration by the Pinex Co., Fort Wayne, Ind., of the term "Pinex" for a cough syrup.

Issue Poison Regulations

The Department of Agriculture of the State of California has recently issued a booklet on Economic Poisons Regulations 1937-1938. This is a reprint from Special Publication No. 163.

P. C. Ass'n Elects

The North West Pest Control Association at its annual meeting on January 10 re-elected the same slate of officers: Wm. O'Reily of Plunkett Exterminating Co., president; H. N. Harmer of Rose Exterminator Co., vice-president; J. A. Athelstan of Athelstan Products Co., secretary; and E. H. Leitte of Fumigation Service Co., treasurer. All the officers and firms are of Minneapolis.

Pynosol Moves

Pynosol Laboratories Inc., Chicago, disinfectants, have recently moved to other quarters at 215 N. Aberdeen St.

Exterminators Elect Buettner

The Associated Exterminators and Fumigators of New York re-elected William O. Buettner as president at the annual meeting, January 11. Other officers are Arthur O'Conner, Security Exterminating Co., 1st vice-president; Murray Gladstone, Abbot-Madison Exterminating Co., 2nd vice-president; William J. Parker, secretary-treasurer; other members of the Board of Directors for 1939 are: S. S. Rosen, Guarantee Exterminating Co., Merwyn Horwitz, Excelsior Exterminating Co., and Joseph Pero, American Exterminating Co. The Association is considering changing its name to the New York Pest Control Association. The speaker of the evening was Dr. John B. Oberwager, Chief of the Sanitary Board of the New York City Health Department. Two new members have joined the association, Industrial Fumigant Co. and Five Boro Exterminators, Inc.

Chemical Distributor Moves

Frank E. Wilson, distributor of alkalies, acids, and sanitary chemicals, has moved to new and larger quarters at 1514 North Front St., Philadelphia.

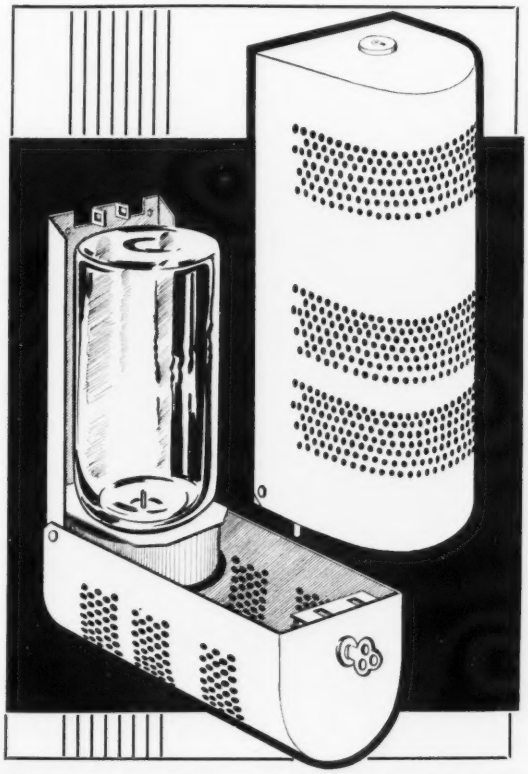
To Advertise Silver Polish

H. L. Moore Co., Boston, will shortly release new advertising for Greene Mineral Paste Co., Keene, N. H., manufacturer of silver polish.

Diamond Alkali Moves

Diamond Alkali Co., Pittsburgh, has recently moved its offices to new quarters at 535 Smithfield St.

GARNET LARGEST MANUFACTURERS OF SANITARY APPLIANCES SINCE 1899.



New

SUPERIOR

WHITE PORCELAIN ENAMEL

DRIP-MACHINE

FOR DISPENSING DRIP FLUIDS
TO DISINFECT AND DEODORIZE

Constructed of heavy gauge metal. All working parts of Brass,—Chrome Plated.

Tamper Proof Lock.

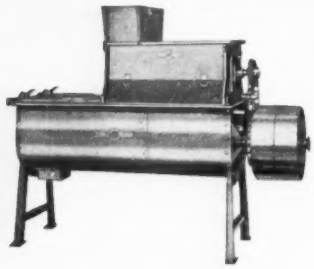
Drips approximately one quart of fluid per month. Easily installed.

Write for Catalogue and Price List.

Garnet Chemical Corporation

911-925 NORTH LUMBER STREET
ALLENTOWN, PENNA.

FOR MIXING



Sweeping Compounds — Deodorant Crystals — Insecticides —

This small Sprout-Waldron power mixer meets requirements perfectly. It is furnished with or without sifter attachment. Sizes range from 2½ to 15 cubic feet, with ¾ to 3 horsepower requirements. *Write for Catalog*

SPROUT, WALDRON & COMPANY

Dept. 3 **Muncy, Pa.**

A new floor wax

for the janitor supply and jobbing trades which is

waterproof

and which gives a

high gloss

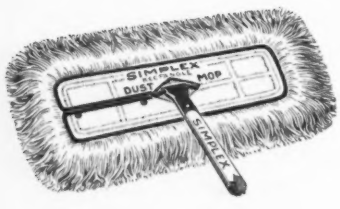
ZIP-ON WAX

Dries very bright and becomes water resistant as soon as dry. Wax content guaranteed 100% Carnauba. Supplied in bulk, or with your label in any size container.

Shawmut Specialty Co.

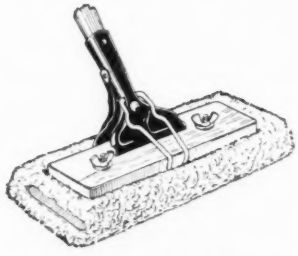
91 Bickford St. **Boston**

SIMPLEX DUST MOP — HOLZ-EM WAX APPLICATOR



The SIMPLEX is the newest, most practical and economical thing in dust mops—a strong unified wire frame with a swivel handle and *a mop that comes off to wash.* Available in several sizes.

The HOLZ-EM has long been acknowledged as the best for applying and spreading liquid wax, varnish, seals and other floor finishes. Sheep wool pads are washable and easily replaced.



AMERICAN STANDARD MFG. CO., 2509 SO. GREEN STREET, CHICAGO

New Haag Vice-President

Haag Laboratories, Inc., Chicago manufacturers of soap and sanitary products, announce that V. W. Haag, Jr. has been made vice president in charge of production. Mr. Haag, a University of Illinois graduate, has been with the company for the past several years. E. J. McCormick and L. C. Cates have been added to the sales staff of the company. Mr. Cates, formerly a Chicago consultant, will work in the Indiana territory.

Exterminators Sign With Union

The Professional Exterminators Association, New York, has signed a new three years contract with the Exterminators & Fumigators Union, Local 155, A.F. of L. The principal features of the new agreement provide for a minimum wage of $29 per week in 1939; $30 in 1940; and $31 in 1941. Apprentices are to receive $18 per week with a $3 increase every three months. The work week is to consist of five consecutive days of eight consecutive hours each, exclusive of a one hour lunch period. The contract also provides for a one week vacation with pay and seniority rights after six months employment.

N. E. Pest Control Meets

The New England Pest Control Association held its monthly meeting on January 9th at Hotel Lenox in Boston. The speaker of the evening was George R. Elliot, who spoke on the subject of rat and mouse control, supplementing his talk with motion pictures of rat control work of the U. S. Bureau of Biological Survey. The next meeting will be held at the Hotel Lenox on February 6th at 8 p.m.

G. E. Specialty Moves

The G. E. Specialty Co., manufacturer of sanitary supplies, has recently moved to new quarters at 19 Wyckoff Ave., Brooklyn.

Coopers Creek Changes Hands

Coopers Creek Chemical Co., coaltar products, West Conshohocken, Pa., has sold its assets to the newly-formed Coopers Creek Chemical Corporation. Officers of the new corporation are: Rollin C. Gere, president and treasurer, and John B. Bowman, secretary. Mr. Gere, who formed the corporation, was formerly production manager in charge of manufacturing in the roofing and dry-felt division of the U. S. Gypsum Co. Previous to that Mr. Gere had been vice-president of W. & J. Sloane-Blabon Corp.

Fritzsche Bros. New Branch

Fritzsche Brothers, Inc., New York, will in the future be represented in the St. Louis territory by their own recently established branch at 308 South Fourth Street. This branch will be in charge of Mr. Franc A. Barada, formerly of Barada & Page, Inc., representatives for Fritzsche in this district over a long period.

CARNAUBA WAX

—CHOICE SELECTIONS—

The maintenance of our own organization in Brazil places us in a unique position as importers of this product.

ALL GRADES
SPOT OR FUTURES

•

LENAPE TRADING CO., INC.
225 BROADWAY NEW YORK

Sales Representatives

BOSTON, MASS.
N. S. Wilson & Sons Co.
729 North Station
Industrial Bldg.

ST. LOUIS, MO.
Clifford L. Iorns Co.
619 Clark Ave.

SYRACUSE, N. Y.
L. R. Cross
418 Solar St.

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.
Manufacturing Chemists, Importers, Exporters
799 Greenwich St. New York City
Cable Address: "Pylamco"

Special Offerings of

New and Rebuilt

SOAP MACHINERY

by

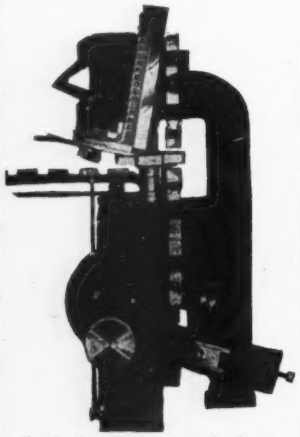
NEWMAN

We carry a complete line of equipment for the soap and sanitary products industry. All used equipment is rebuilt in our own shops and is guaranteed to be in first class condition. All new equipment that we manufacture such as crutchers, frames and cutting tables is of the finest material and workmanship. You can buy with confidence from Newman.

New CRUTCHERS

This Newman brand new, all steel, steam jacketed soap crutcher will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap.

Automatic JONES PRESS



Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our shops.

H-A SOAP MILL

This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls. Priced for quick sale.

USED SPECIALS

For the Soap, Chemical, Cosmetic and Allied Trades

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.

Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.

Ralston Automatic Soap Presses.

Scouring Soap Presses.

Empire State, Dopp & Crosby Foot Presses.

2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.

H-A 4 and 5 roll Steel Mills.

H-A Automatic and Hand-Power slabbers.

Proctor & Schwartz Bar Soap Dryers.

Blanchard No. 10-A and No. 14 Soap Powder Mills.

J. H. Day Jaw Soap Crusher.

H-A 6, 8 and 10 inch Single Screw Plodders.

Allbright-Nell 10 inch Plodders.

Filling and Weighing Machine for Flakes, Powders, etc.

Steel Soap frames, all sizes.

Steam Jacketed Soap Remelters.

Automatic Soap Wrapping Machines.

Glycerin Evaporators, Pumps.

Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.

Perrin 18 inch Filter Press with Jacketed Plates.

Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.

Day Grinding and Sifting Machinery.

Schultz-O'Neill Mills.

Day Pony Mixers.

Gardiner Sifter and Mixer.

Proctor & Schwartz large roll Soap Chip Dryers complete.

Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.

Day Talcum Powder Mixers.

All types and sizes—Tanks and Kettles.

Ralston and H-A Automatic Cutting Tables.

Soap Dies for Foot and Automatic Presses.

Broughton Soap Powder Mixers.

Williams Crutcher and Pulverizer.

National Filling and Weighing Machines.

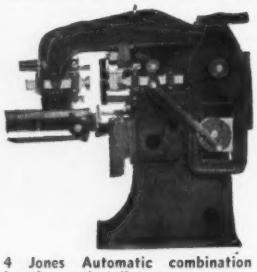
Send us a list of your surplus equipment—
we buy separate units or complete plants.

Newman Tallow & Soap Machinery Co.

1051 W. 35th St., Chicago, Illinois

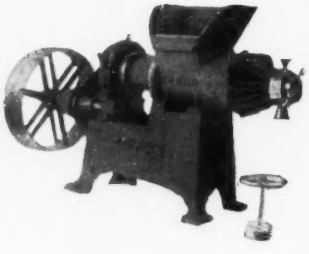
Our forty years soap experience can help solve your problems.

JONES AUTOMATIC



4 Jones Automatic combination laundry and toilet soap presses. All complete and in perfect condition.

SINGLE SCREW SOAP PLODDER



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.

Classified Advertising

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Chemical Engineer — Hungarian soap, oil, glycerine and glue expert of international reputation, desires employment in the States or Canada. Long experience in manufacturing, management and laboratory work. Several publications on original research. Address Box No. 540, care *Soap*.

Cost or Plant Accountant. Man with more than eight years' experience in the soap and allied industries, and twenty years factory accounting experience, seeks position in executive capacity. What have you to offer? Will locate anywhere. Address Box No. 542, care *Soap*.

Sales — Man with twelve years' experience in sales of agricultural insecticides and other chemical by-products for large company, desires new connection in insecticide or chemical field. Thirty-three years of age, married, college graduate, speaks fluent French and Spanish. American with close knowledge of Latin America. Address Box No. 531, care *Soap*.

Pyrethrum Extract — Man thoroughly adept in manufacturing pyrethrum extracts. Experienced millwright. Capable of setting up entire pyrethrum extract processing plant. Address Box No. 539, care *Soap*.

Experienced Soap Maker wishes to make permanent connection. Able to manufacture Neutral Liquid Soap (without doctoring), also insecticide non-rubbing wax, prepared liquid and paste waxes, metal polishes, etc. Address Box No. 536, care *Soap*.

Salesman—Man with close knowledge of insecticide trade and a number of years' experience in the field, desires connection with progressive house supplying raw materials or with equipment manufacturer where there is opportunity for advancement. For further details, communicate with Box No. 538, care *Soap*.

Chemist, Ph.D., many years experience in soaps, cosmetics, perfumes, oils, fats, etc., with leading companies, desires connection. Best references. Address Box No. 521, care *Soap*.

YOU'LL BE SURPRISED

at the low prices of Consolidated Guaranteed Good Rebuilt Equipment*. Efficient rebuilding at our 8-Acre Newark Plant, enables us to sell at the lowest possible prices.

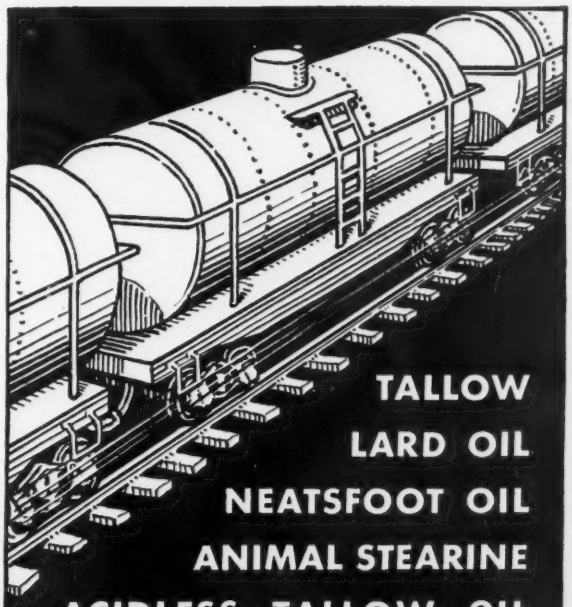
Crutchers	Pulverizers
Soap Kettles	Soap Pumps
Powder Mixers	Soap Chippers
Granite Mills	Filter Presses
Plodders	Soap Frames
Slabbers	Powder Fillers
Foot and Automatic Soap Presses	Labellers
	Tanks
Cutting Tables	Boilers

Selected Specials

1—Proctor & Schwartz Soap Chip Dryer, steel frame, 72″ Apron, with 5-roll P. & S. Mill.
2—Blanchard No. 10 Soap Powder Mills.
4—Steel Wool Mfg. Machines, complete.
3—Automatic Soap Wrapping Machines, electric glue sealers, adjustable.
1—Jones automatic Soap Press.
2—Pneumatic Scale Carton Packaging Units.
5—Rotex sifters, 20″x48″ screens, single deck.

**Send for Winter Issue "Consolidated News"*

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW — NEW YORK, N. Y.
BArclay 7-0600 — Cable Address: Equipment
We buy your idle Machinery—Send us a list.



TALLOW
LARD OIL
NEATSFOOT OIL
ANIMAL STEARINE
ACIDLESS TALLOW OIL

Prompt Delivery—Drums, Barrels, or Tank Cars.

INDEPENDENT MANUFACTURING CO.
Bridesburg P. O. — Philadelphia, Pa.

Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 134 for page numbers. *"Say you saw it in SOAP."*

ALKALIES

American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
T. G. Cooper & Co.
Diamond Alkali Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer Inc.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Solvay Sales Corp.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

Associated Chemists, Inc.
Baird & McGuire, Inc.
Buckingham Wax Corp.
Candy & Co.
Chemical Supply Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Federal Varnish Co.
Fuld Bros.
Harley Soap Co.
Hysan Products Co.
Koppers Co.
Kranich Soap Co.
Peck's Products Co.
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
Shawmut Specialty Co.
Sweeping Compound Mnfrs. of N. Y.
Uncle Sam Chemical Co.
T. F. Washburn Co.
WaxPol Laboratories
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
T. G. Cooper & Co.
Diamond Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
E. M. Sergeant Pulp & Chem. Co.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
Baird & McGuire, Inc.
T. G. Cooper & Co.
Innis, Speiden & Co.
Koppers Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.

CONTAINERS and CLOSURES

American Can Co. (Tin Cans and Steel Pails)
Anchor-Hocking Glass Corp. (Closures & Bottles)
Continental Can Co. (Tin Cans)
National Can Co. (Cans)
Owens-Illinois Glass Co. (Bottles)
Standard Container, Inc. (Cans and Closures)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Fuld Bros.
National Sanitary Chemical Co.

ESSENTIAL OILS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Co.
Firmenich & Co.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

INSECTICIDES, SYNTHETIC

American Cyanamid & Chemical Corp.
Rohm & Haas Co.

(*Continued on page* 132)

Englishman, at present well-known consultant to the soap and allied industries in Great Britain, seeking to extend his experience in the U. S. A., offers his full-time services in a suitable capacity to an American organization. Address Box No. 515, care *Soap.*

Positions Open

Wanted: Specialty salesman with bulk floor products experience. Must be able to travel extensively. Reply by letter only giving full background and enclosing photograph. Franklin Research Co., 5134 Lancaster Ave., Phila., Pa.

Wanted: Soapmaker and chemist with experience in the manufacture of laundry soap, especially the variegated of striped and yellow types. Also toilet soap. Address Box No. 537, care *Soap.*

Floor Waxes—Manufacturer of bulk wax products and floor soaps wants established distributor or jobber on exclusive basis. Low costs gives competitive edge to such distributor. For further details, write to Box No. 534, care *Soap.*

Miscellaneous

Wanted—Proctor & Schwartz four or five fan soap chip dryer with 48" diameter cooling roll for cash. Must be in good condition. Address Box No. 545, care *Soap.*

Complete Soap Plant Equipment for Sale: Proctor soap chip dryer; automatic soap press; wrapping machine: 4 roll stone mills; foot press; plodders 6", 8", 10"; soap boiling kettles; 6 knife chipper; two-way cutting table; frames; filter presses; crutchers; mixers; boilers. Stein Equipment Corp., 426 Broome St., New York City.

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

For Sale: Sargent nine fan chip soap dryer fully equipped with chilling rolls. In good working condition. Can be seen in operation. Write for details Box No. 543, care *Soap.*

Wanted: To purchase small going business or the equipment of an extinct business manufacturing chemical specialty products or allied items sold through grocery and drug trades. Business should be located east of Mississippi River and equipment suitable for moving to plant already established. Send full details to Box No. 533, care *Soap.*

TETRA SODIUM PYRO PHOSPHATE

Crystalline-Anhydrous

Alkalies
Paradichlor benzene
Carbon Tetrachloride
Tri Sodium Phosphate

•

We are in a favorable position to work with you on your requirements for these and other chemicals used in the manufacture of soaps, detergents and sanitary products. Why not check with us?

•

JOHN A. CHEW, INC.
60 East 42nd Street New York
Phone: MUrray Hill 2-0993

"Before You Buy—Ask WECOLINE"

High Grade Distilled
FATTY ACIDS

COCONUT	SOYA BEAN
PALM	COTTON SEED
CORN	WHITE OLEIN
LINSEED	TEASEED

—and REFINED OILS of ABOVE

—also SPECIAL PROCESSED FATTY ACIDS and oils, as required for specific soap, resin, and cosmetic uses. Highest purity and color.

Specifications and Samples submitted on request, stating your approximate type needs.

"ASK WECOLINE"—especially if you place emphasis upon the quality of materials used in your products, and demand rigid specifications.

WECOLINE Products, Inc. BOONTON, N.J.
Sales Offices: NEW YORK.....CHICAGO.....BOSTON

Raw Material and Equipment Guide

(*Continued from page* 130)

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MACHINERY

Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
International Nickel Co. (Monel Metal)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
Mixing Equipment Co. (Tanks, Mixers)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Sprout, Waldron & Co. (Mixing, Conveying, etc)
Stokes & Smith Co. (Pkg. Machy.)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.

MISCELLANEOUS

American Colloid Co. (Bentonite)
American Standard Mfg. Co. (Wax Applicator)
Anchor-Hocking Glass Corp. (Metal Caps)
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)
General Dyestuff Corp. (Waxes)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants and Waxes)
Koppers Company (Coal, Coke, Roofing Materials)
Lenape Trading Co. (Waxes)
Montrose Corp. (Shellac)
Pennsylvania Refining Co. (White Oils)
Pylam Products Co. (Lathering Agent)
S. Schwabacher & Co. (Naphthenic Soaps, White Mineral Oils)

OILS AND FATS

Eastern Industries
Independent Mfg. Co.
Industrial Chemical Sales Div.
Leghorn Trading Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
E. M. Sergeant Pulp & Chemical Co.
Wecoline Products Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

John A. Chew, Inc.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING COMPOUNDS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Corp.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Atlantic Refining Co.
Pennsylvania Refining Co.
S. Schwabacher & Co.
L. Sonneborn Sons.
Whitmire Research Co.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products

Associated Chemists, Inc.
Derris, Inc.
S. B. Penick & Co.
R. J. Prentiss & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.

SILICATES

E. I. du Pont de Nemours & Co.
Philadelphia Quartz Co.
Standard Silicate Co.

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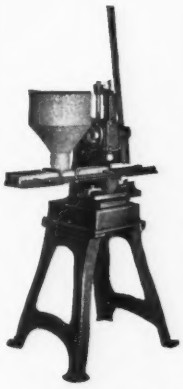

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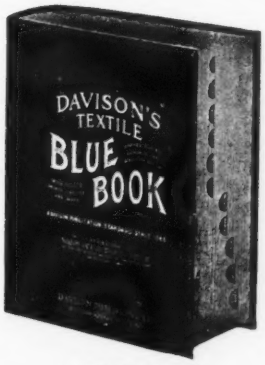

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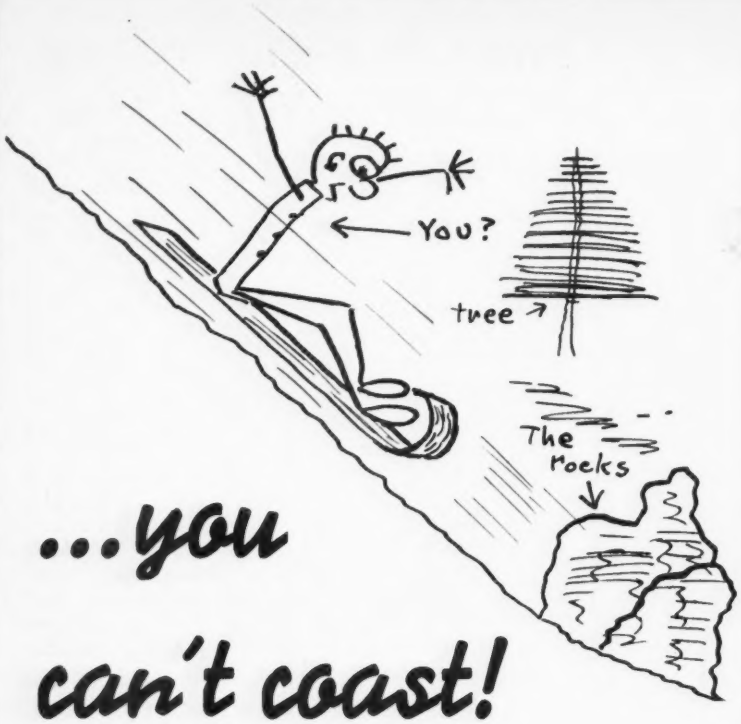

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